

American FORESTS

The Magazine of Forests, Soil, Water, Wildlife, and Outdoor Recreation

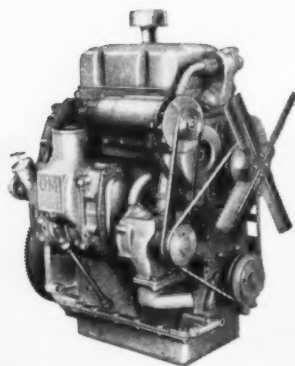
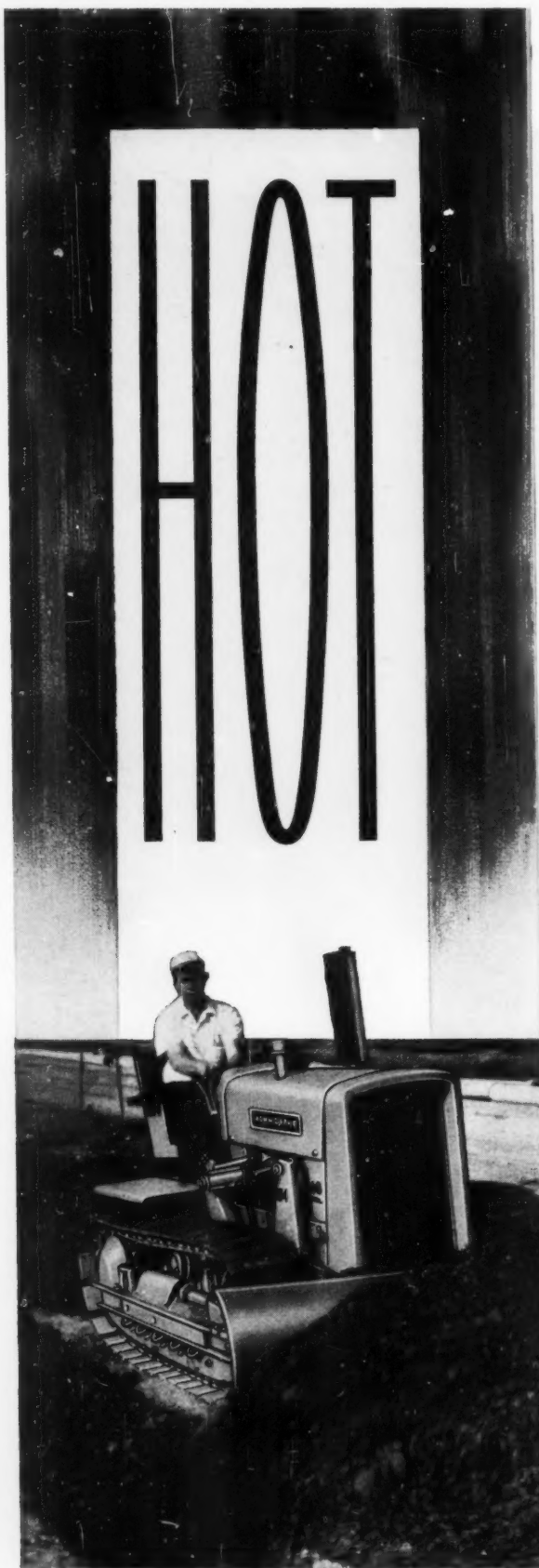
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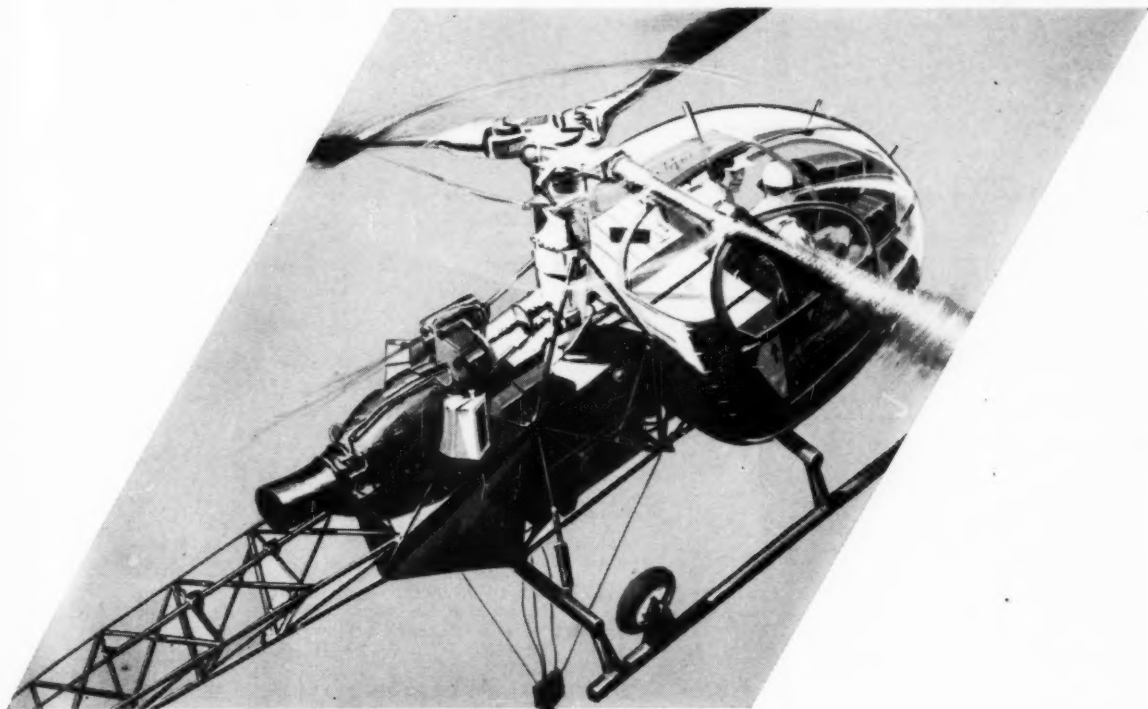
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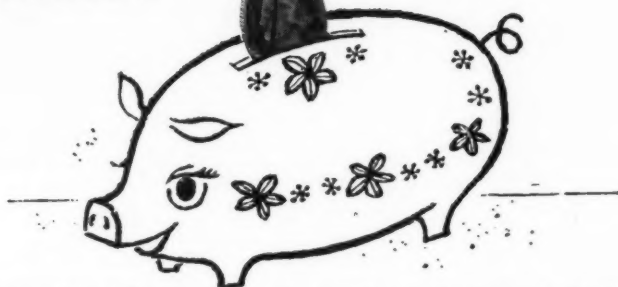
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American FORESTS

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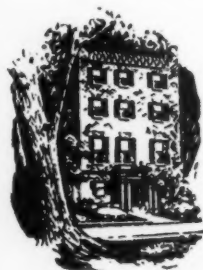
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THE COVER

It was "allemande the corners all and grand promenade" at Pennsylvania's Shawnee State Park the evening of October 14 when convention members of The American Forestry Association kicked up their heels at an old fashioned square dance and hoe down. Following an ox roast members repaired to a big barn on the park premises where the fiddlers were soon in high gear. Between sets, members sipped sweet cider, nibbled at Pennsylvania apples, and took time to admire the barn's wooden beams and siding as grown in nearby woodlands. Corn meal soon turned the big barn floor into as fine a ballroom as anyone could desire and aided by nippy October weather ideal for dancing, the members contrived to have a grand and glorious time. Cover by Vincent Finnigan.

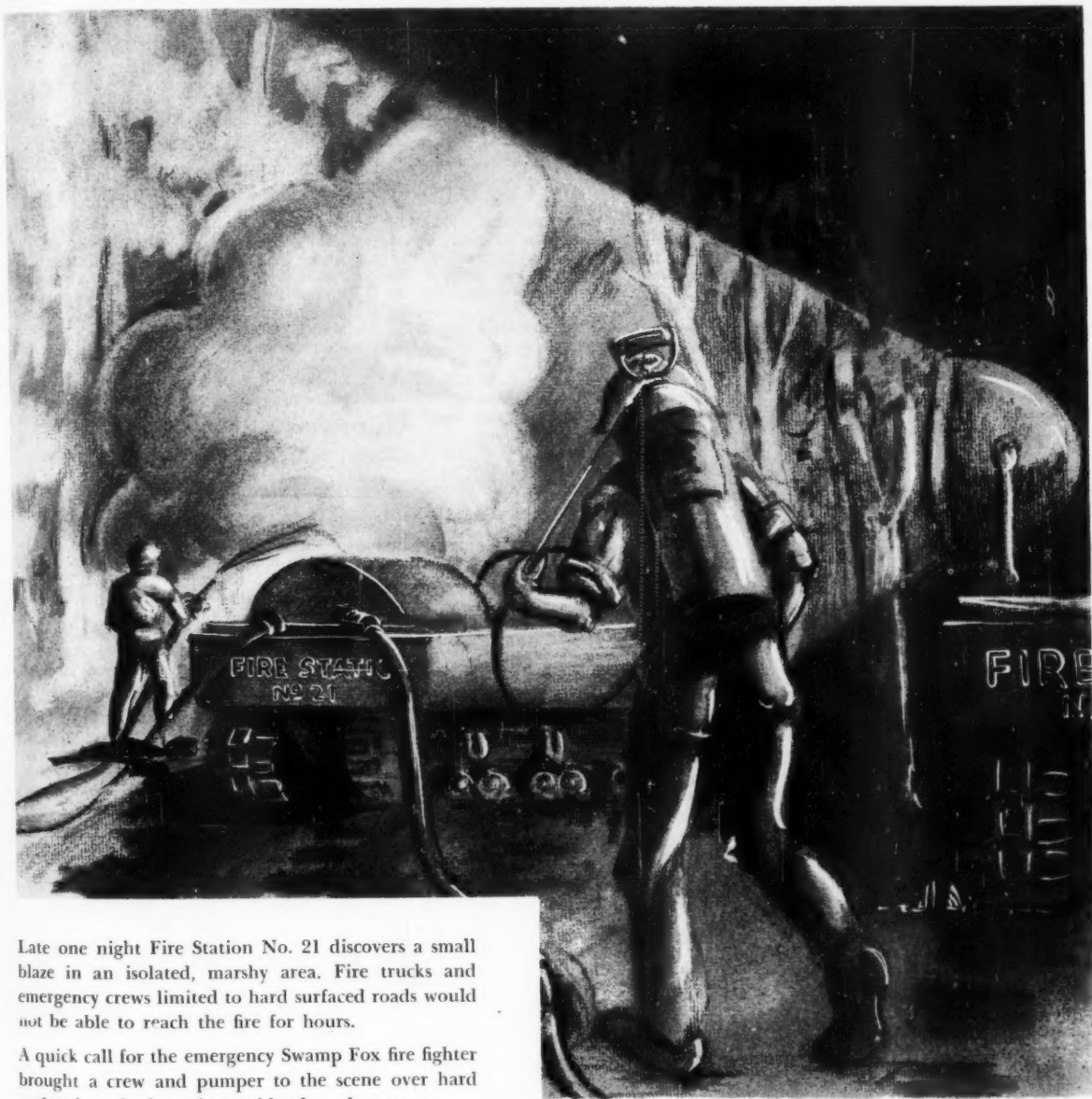


The AFA

The American Forestry Association, publishers of *American Forests*, is a national organization — independent and non-political in character — for the advancement of intelligent management and use of forests and related resources of soil, water, wildlife and outdoor recreation. Its purpose is to create an enlightened public appreciation of these resources and the part they play in the social and economic life of the nation. Created in 1875, it is the oldest national forest conservation organization in America.

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The SWAMP FOX that saved a Forest...



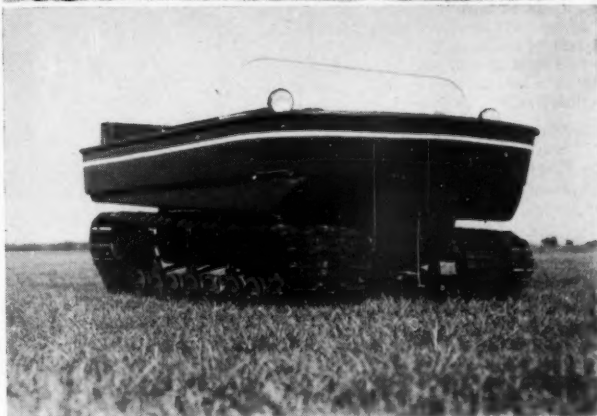
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Forest Forum

Resource Renaissance

EDITOR:

Thanks so much for sending to me a copy of a special issue of your magazine entitled AMERICAN FORESTS.

Your salute to Pennsylvania's resource renaissance is most timely and I enjoyed reading your worthwhile articles regarding our Commonwealth's forests.

I am certain that Secretary Goddard and his staff were extremely pleased that they were afforded the opportunity to co-operate with you in helping to publish your special edition.

David L. Lawrence
Governor
Commonwealth of Pennsylvania
Harrisburg, Penna.

EDITOR:

I completed reading the October issue of AMERICAN FORESTS last night and hasten to assure you how much I enjoyed every article in this special issue devoted to Pennsylvania.

Frankly, your very kind editorial on my administration of the Department of Forests and Waters presents a personal challenge to live up to your generous words. It is impossible to accept the premise that whatever successes we may have had in the development of our program can be credited to any one individual. As you so ably pointed out, we are fortunate in having a high degree of co-operation among the various state agencies, industry, conservation groups, and untold hundreds of dedicated citizens. With so many influences working together for forestry and conservation in Pennsylvania, we hope the immediate and future years will show that co-operative effort is the most successful approach to the administration of the forests and waters of the commonwealth.

You are to be commended in honoring George Wirt. In my opinion he is truly one of Pennsylvania's outstanding conservationists. So many of our early leaders received little or no recognition during their life-times. It is most fitting to salute Mr. Wirt, as he well deserves his place on the honor roll of outstanding foresters.

My very best to you and heartfelt thanks for the excellent coverage of our program for Pennsylvania.

Maurice K. Goddard
Secretary, Dept. Forests and Waters
Commonwealth of Pennsylvania
Harrisburg, Penna.

EDITOR:

I read with interest in The New York Times of your Association's convention under the theme of "Resources and People—A Challenge of Coexistence" and of the keynote address by your president in relation to the ending of the "cold war."

Both the keynote and the convention

seemed to have an importance far beyond the brief report in the Times. Consequently, I would much appreciate, if they are available, copies of the text of the opening address and proceedings of the convention.

Thank you for your time and trouble.

George F. Nelson
525 East 14 Street
New York 9, N. Y.

(Copies of the presentations have been forwarded to Mr. Nelson and some are presented in this issue—Editor)

Letters from Sweden

EDITOR:

We appreciated very much your kindness to publish a nicely written story on the Ninth Northern Forest Congress. The July issue of AMERICAN FORESTS, where Mr. Raymond E. Marsh published his report, is a splendid issue indeed. We, your colleagues in The Swedish Forestry Association, congratulate you and your clever collaborators to this extremely good result.

It is a surprise that we don't have your magazine in our library. As you don't have our SKOGEN (The Forest)—published twice monthly—it could perhaps be a good idea to exchange our magazines. From now on we put you on our mailing list and should highly appreciate the same favor from you.

Hans Hedlund
Svenska Skogsvarsforeningen
Box 16316
Stockholm 16, Sweden

MR. MARSH:

I have just received the copy of AMERICAN FORESTS containing your article "Giving Forestry a Place in the Sun" which you very

kindly sent to me. I very much appreciated your kindness in remembering me with your article. At the same time, I must tell you how much we Swedes appreciate your continued interest in Swedish forestry and science and your presenting it to the American public in the excellent way as you have done it in your article.

I am on vacation in Sweden and expect to be back in Washington in the beginning of September. I hope to see you then.

Gunnar Jarring
Ambassador to America
Stockholm, Sweden

Shangri-La, America

EDITOR:

Allow me to congratulate you on your cover photo on the September issue of AMERICAN FORESTS.

The area pictured is not only a "Shangri-La," as editor Craig states, it is also the playground for several hundred thousand campers, tourists, hikers and sportsmen. In addition to that it also happens to be the place of my employment, for at the present time I am a forester, with the U.S. Forest Service, Spirit Lake District.

However, the point of this letter was to inquire how one might go about obtaining a copy of Mr. Yorton's picture. If you may recall it was not long ago that the *Saturday Evening Post* also pictured Mt. Saint Helens and Spirit Lake, and I have been in the process for the past year or so of collecting as many photos as possible that appear in national magazines of this mountain.

Christopher Comstock
Forester
Spirit Lake District, USFS
Castle Rock, Washington

EDITOR:

I believe the picture on the cover of the September issue of AMERICAN FORESTS is one of the finest pictures I have seen in some time and I am wondering if you could advise me how I could secure a copy of this picture. I would like to have something about 16 inches wide and 20 inches high.

R. G. Sackerson
General Manager
Milwaukee Land Company
Seattle 1, Washington

Forestry Heritage

EDITOR:

I have just read with great interest Henry Clepper's article in the October magazine, and noted with especial pleasure the "Feature Photo" of George Wirt—who deserves it.

As one of the back numbers in American forestry, I can testify to acquaintance with practically all the gentlemen pictured on Page 15, and to my very high regard for them.

But I want to add a little testimony to

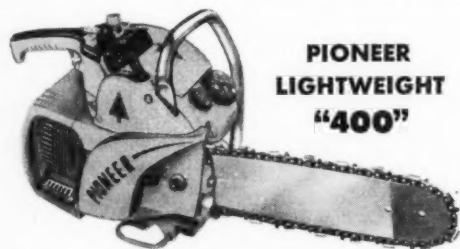




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the versatility of the father of organized forestry and tuberculosis sanitariums in Pennsylvania—Dr. Rothrock.

Clepper speaks of Rothrock's being a member of "an exploring party in British Columbia." In fact, he was botanist in a Western Union survey party down the Yukon in Alaska in 1865. The scheme then was for a telegraph line across Bering Straits and Siberia to Europe—which was made unnecessary by the final successful laying of the Atlantic cable soon thereafter. Incidentally, this same survey reported evidences of gold in Alaska—over a third of a century before the Klondike-Fairbanks-Nome discoveries.

One of the prized books in my maritime library is Rothrock's *Vacation Cruising*, published by Lippincott in 1884. It describes a summer in a 30-foot sloop in the Chesapeake with two small sons aboard as well as more distinguished guests. Rothrock knew his sailing just as accurately as he did the history and natural features of that delightful landscape. I have dropped anchor in some of those same pleasant harbors.

Two of my cherished keepsakes of camping days were given me by Rothrock some 50 years ago. One is his "Luck Strap"—a soft one-inch wide leather strap 4 feet long with a ring at one end with which he said he could pack out a deer when hunting, and it has a variety of other uses. The other is a large spool of coarse thread. The spool is hollowed out to contain needles and a stopper holds them in. He was always practical.

The last time I enjoyed his company was, I think, about 1920 when he, Dr. Drinker of Lehigh, and I were the nominating committee for officers of The American Forestry Association. We met in Philadelphia and quickly were in unanimous agreement.

I have long urged that some competent person—preferably George Wirt—should write an adequate biography of this man who pioneered in so many good things. Can't you further the idea? The Forest History Foundation, St. Paul, would be an appropriate sponsor.

Royal S. Kellogg
Palmetto, Fla.

Hymn To Wilderness

EDITOR:

What a beautiful cover, "A Hymn To Wilderness."

We live on a farm and when things get me down, I go to our beautiful woods, as I call it God's Cathedral. When I think that the hand of mere man had nothing to do with the fashioning of all woodland beauty, I can find peace and contentment.

So I enjoyed reading the articles in this magazine.

Mrs. J. C. Hale
5346 Fishcreek Road
Stow, Ohio

EDITOR:

What a beautiful editorial—"A Hymn to Wilderness" in the September issue. Without raising an issue, the writer makes a powerful plea for wilderness preservation.

Sigurd F. Olson
Ely, Minnesota

EDITOR:

As AFA's representative on this year's Maroon Bells-Snowmass Wilderness ride in Colorado, I think I should report that riders at our evening campfires were very critical of our association's magazine, AMERICAN FORESTS. While I tried to defend the association and the magazine on this, I

thought the matter should be passed on to you. They would like to see more color in the magazine. Also they asked that there be more articles of popular interest rather than too many articles by professionals. They asked for articles by popular and well known authors accustomed to writing for the public that would show the great advantages of our trail rides and the vital importance of preserving and defending our wild and wilderness areas. In a word, these people, many of them members of the association for many years, believe that many of our technical writers have little if any appreciation of wilderness values as such and would like to see more articles by people who do.

Dr. Raymond Kienholz
Storrs, Connecticut

EDITOR:

Congratulations on your wonderful editorial in September's AMERICAN FORESTS.

You expressed in words what I feel in my heart.

Kay Turzyn
55 Melrose Avenue
Bergenfield, N. J.

EDITOR:

I thoroughly enjoyed your editorial on page 9 in the September, 1959 AMERICAN FORESTS. It was quite evident from the way it was written that you were there and that you experienced the things about which you wrote.

I looked at the picture quite some time trying to determine whether it was taken on the first day, or the second day, or the third day of the trip, but after some study, I concluded that it must have been taken on some later day, possibly the fourth or fifth, because you sat on the horse as comfortably and capably as you do in your editor's chair.

James W. Craig
President and General Manager
Forestry Suppliers, Inc.
Jackson, Mississippi

(Last day—Editor)

EDITOR:

I have just finished reading your editorial on our trip. How magnificently you have put it all! Every moment of it, every sight and sound and scent come rushing back as I read. I am certain that those who have never been, who read your editorial, will want to join the Trail Riders. I shall give this to my friends to read when they ask me about my trip.

I had a wonderful ten days at the ranch and then went along on the second trip as Marge's assistant on the cook train. It was wonderful fun but we missed many of you grand people who were with us on the first trip. Will you ever forget the snow shoveling? Thought you might like to have the enclosed slide.

NOTE TO READERS

In this issue of *American Forests* an effort has been made to present the gist of an array of papers of unusual caliber even for an AFA convention. However, due to the limitation of space considerable editing was required in many instances. In all cases, editing is noted by three periods between the breaks. Readers desirous of reading the complete text of any speaker so edited may write to the magazine for complete copies. These requests will be filled so long as the supply of extra copies lasts.

Polly and Ernie and Melita are all well. I am enjoying my new job working as a researcher now at Boyce-Thompson and will move the end of this month to 555 Broadway, Hastings-on-Hudson, N. Y. If you come this way, let us all know. I have some friends here with Ronald Press who are members of AFA. I think you would enjoy knowing them. Again congratulations on a beautiful editorial. I'll keep it as a cherished memento of a wonderful summer.

Miss Margaret A. Masters
1700 York Avenue, Apt. 1T
New York 28, N. Y.

Forests Take Vision

EDITOR:

Congratulations to Robert Bowers, for his fine article "Forests Take Vision," which appeared in the August issue of AMERICAN FORESTS.

It is encouraging to review such a down-to-earth saga of pioneering and woodland development, although considerable credit for the work should go to the ACP assistance program.

A comment on permissive uses of trees grown in state nurseries is worthwhile. States generally takes a dim view of sales of state grown trees for ornamental purposes. Furthermore, ornamental plantings are not eligible for ACP assistance. Ergo, the author will be advised to investigate the West Virginia legal limitations before he sells the Norway spruce he planted.

I might add that some states frown upon Christmas tree production from trees grown in the public nurseries, so prospective planters will benefit by checking state laws before embarking on planting programs for special purposes.

E. H. Meekins
Forester
246 Childs Avenue
Drexel Hill, Pa.

"Do It Yourself . . . ?"

EDITOR:

In a letter in the October, 1959, issue of AMERICAN FORESTS, Mr. Richard Schwartz of Van Buren, Missouri, tells of the difficulties of practicing good forest management in the open-range country of the Ozarks. He ends his letter by asking "Why don't you do something about it?"

Why don't you do something about it, Mr. Schwartz? Isn't this a local problem, requiring a local solution? What can The American Forestry Association, or even the Congress of the United States do about it? And if they could, should they? Suppose Congress should enact a law compelling your area to fence in its stock. Would you, or the people in your area, like to have Congress meddling in your affairs, telling you what you can't do? No! The remedy must come through a local or state law.

I am afraid your thinking, Mr. Schwartz, reflects the all too common urge to turn to Washington for the solution of local problems. That is not the pioneer spirit that settled the Ozarks.

Richard W. Smith
Natural Resources Department
Chamber of Commerce
of the United States

Beautiful Macaw

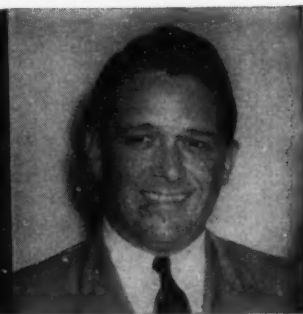
EDITOR:

That is a beautiful color picture of the macaw you have in your October issue, and it is a very good job of color printing.

J. Allen Anderson
First Presbyterian Church
Mangum, Oklahoma

Reading
about

RESOURCES



By MONROE BUSH

A Nature Magazine Anthology

A YEAR ago I reviewed John Kieran's *Treasury of Great Nature Writing* (October, 1958), and noted that "In the difficult art of anthologizing, it is superb." Now along comes another distinguished collection of nature stories, this one drawn from the back issues of *Nature Magazine*, rather than the far-flung (and hence, one would think, richer) origins of the Kieran book.

Yet an editor's skill invariably counts for more than the depth and variety of his sources. For thirty-six years the incomparable Richard W. Westwood has had an editorial connection with *Nature Magazine*—for the past thirty as editor. While a quick review of the Kieran volume underscores my first judgment in calling it superb, let me emphasize that what Dick Westwood has garnered from *Nature Magazine* and put between boards as *This Is Nature* (Thomas Y. Crowell Co., N. Y. 1959. 214 pp) is no less so. The fact that it is strained from a single publication is an unparalleled tribute to the quality of that magazine over the thirty years upon which Westwood draws.

Most of the professional expositors of nature within the past half-century are represented in this pot-pourri. Here are pieces by such familiar names as Teale and Beebe and Murphy and Devoe, Carhart and Pack and Tilden and Peattie. Here also are pieces by authors you never heard of before, and may not find again, but who for a few printed pages achieve the sort of immortality that justifies Westwood's including their contributions in this volume which is so obviously a labor of love.

William Beebe's piece on the fabulous seahorse, "A Motherly Knight in Armour," is by all odds

the best written. A Beebe paragraph is a joy to behold. The man, for all his science, is a literary man. This is not a common characteristic of naturalists.

Yet there are of course many other criteria besides the purely literary. Many pieces in this Westwood collection shine in their individually distinctive merits. For me there was no question as to which was the most interesting. It was "A Genius in Feathers," one of two selections by Alan Devoe, this one concerned with the wiles and wonders of the common crow. The bird has always intrigued me, since many years ago I first admired and envied a friend's pet crow and Devoe does full justice to its incredible ways.

Paul Mason Tilden, associate editor of *Nature Magazine*, does an off-beat article on the rocky rubble left in the wake of the last glacial period. This is solid natural history,

entertaining and instructive. Of the same stripe is an essay by Donald Culross Peattie, "Pollen — Wonder Dust of Nature," which can teach all but the most biologically sophisticated things they never knew till now about pollen.

Foresters will be disappointed in the inexplicable brevity of a piece called "Secrets in Tree Rings," but they will be fascinated as I was by an astonishing photo: a clear picture of a tree's cross section in which, instead of concentric rings, the growth-lines spiral from the center to the circumference. Author Henry W. Schramm observes that this "leaves forestry experts scratching their heads for an answer"—which is certainly the under-statement of a growth-ring!

Yet when all the credits of this fine book are totalled, the real accolade must be reserved for a quotation that appears on the copyright page, as a part of the dedication to the late Edward Alexander Preble, himself an associate editor of *Nature Magazine*. Here Westwood has chosen to reprint a half-dozen paragraphs by Preble entitled "The Lover of Nature." It is the best definition ever given. It is the best thing in an extraordinarily fine book.

Another new anthology of nature stories, these by a single man, is *Adventures in Nature* by Edwin Way Teale (Dodd, Mead & Co., N. Y. 1959. 304 pp). Drawing from a half-dozen previously published books, several no longer in print, Teale gives us thirty-one items. They are charming, perceptive and immensely well done. Indeed, I doubt that there is a more skillful teller of this particular sort of tale.

But they strike me as tales without
(Turn to page 62)



Mr. Richard W. Westwood estimates that during his tenure as editor of *Nature Magazine* he has read 15 million words



This excellent panel of photographs, prepared by the Forest Service, showing

Resources and People

A CHALLENGE

By LLOYD E. PARTAIN



Lloyd E. Partain, president of the Pennsylvania Forestry Association

PENNSYLVANIA has enjoyed from the beginning a truly fascinating forestry heritage. To William Penn goes the rightful credit for the genesis of a practicable forestry program in the area known as Penn's Woods. It was he who in 1681 proclaimed the words to direct a forestry program of a new continent in the form of an ordinance affecting that portion granted to him for the purpose of forming the Quaker Colony. His proclamation was that "in clearing the colony's land, one acre in five should be left in trees to supply continuing community needs for wood."

The people of Pennsylvania have done well in observing that original ordinance. In fact, not only does one acre in every five grow trees today, one acre out of every two of the state's area supports tree cover.

It can also be said that the birth of

organized forestry endeavor among the citizens of the United States began in Pennsylvania. . . . The first tangible step toward a forestry association was the result of a bequest by Monsieur A. F. Michaux to the Philadelphia Philosophical Society on September 4, 1865, in memory of his father, the great French botanist who traveled extensively in North America from 1785 to 1794, during which time his recorded observations became the first substantial knowledge of trees in America.

From this bequest was started two important undertakings which led to the formal organization of the American and Pennsylvania Forestry Associations. The first was the use of approximately \$300 annually to establish the Michaux Grove of Oaks in Fairmount Park (Philadelphia) and the second was to finance a 15-year series of lectures by Dr. Joseph T. Rothrock, Professor of Botany at the University of Pennsylvania. Dr. Rothrock became the first president of the Pennsylvania Forestry Association approximately 75 years ago.

Since that time, forestry in Pennsylvania, as is true in other parts of the nation, has gone through three important stages. The first of these may be generally described as *learning about trees*. It was during this period that the bota-

nists made their great contribution. Some of them, of whom Rothrock was a good example, saw the need for more than botanical understanding and set about to interest others in silviculture and management. The recordings made of those early scientists served as a backdrop for the second stage.

The second stage has been described by some as *extensive use—over use—of trees*. No doubt the land was ripe for harvest. Timber in the headwaters of the well-defined streams became a product of international trade. Choice timber it was; so good, in fact, that it paid to take only the best. . . .

The timber industry flourished until just before the turn of the present century. But by this time much of the land had been subjected to "cut out, burn out, move out" policy. Much of Pennsylvania's early economy was truly timber-based. Much of the land that once grew fine stands of conifers and hardwoods, a substantial portion of which actually was not plowable, was put to the plow. It wore out too quickly. Erosion took its toll. The once clean streams serving as thoroughfares of commerce became lodged with silt and erodible debris. Fire on the hillsides continued to take its toll of the re-

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Showing multiple use of natural resources served as a backdrop for meeting

OF COEXISTENCE

By DON P. JOHNSTON

TWO great American presidents have chosen nearby Gettysburg as a sounding board for national messages. Roughly paraphrasing President Lincoln's opening lines, we might apply these words: "Four score and four years ago a group of dedicated citizens brought forth The American Forestry Association for a purpose."

Then we should ask ourselves, "What have we done, tried to do, and stood for?" Old-timers will recall rivalries between liberals and conservatives, but most newcomers agree that the time is ripe for us to proceed more actively and constructively than heretofore, asking: "How, where, and with what to begin to tackle the gigantic job of catching up?"

We have a comprehensive outline entitled "A Program for American Forestry." This covers several categories and subdivisions. Most industrial forest land-owners have working plans, and some are in advanced stages. Several states have made substantial beginnings and many small woodland owners have proven that tree farming is profitable.

However, large areas of our watersheds, in private and public ownership, are denuded of proper cover—soil is eroding and streams are flooding. Except for the very necessary consideration for state and federal budgets, large sums

could and should be applied to tree planting, terracing, building upstream ponds and storage lakes for power plants, flood control, and irrigation systems. This construction work would extend into each of our fifty states, affect every community, and embrace most phases of industrial and agricultural activity from research and heavy equipment to conventional tools and labor.

The Forest Service and the Park Service have programs partially implemented by appropriations. The Fish and Wildlife Service, Indian Service, Reclamation Service, Army Engineers, Soil Conservation Service, Bureau of Land Management, and the states have needs far beyond any present plans. They may feel no urge for far-reaching studies so long as a large percentage of the national product is required for defense needs . . .

Now, with President Eisenhower based at Gettysburg and taking time from his busy schedule to promote his "Crusade for Peace," many feel that there is beginning to be some sign of lessening tensions and a thawing of the iron curtain. If this can be promoted by international controls and limitations of armaments, then, and then only, of course, some of these billions for war machines may be diverted to the promotion of the "Program for American Forestry"



Don P. Johnston, president of The American Forestry Association

as was proposed some five years ago.

Again, the skeptics and bears say: "What will become of our economy, if serious peace talk should slow down our factories?" History proves that an economy built on war goods is a fool's paradise. International adoption of any peace plan will contribute to the promotion of peaceful pursuits, including forest conservation, which embraces timber, water, soil, wildlife, and recreation, all requiring education, technology, research, and transportation of all kinds.

Last year the Outdoor Recreation Resources Review Commission was created to consider what we find to be one section of the "Program for American Forestry." It now seems opportune to reappraise the other sections of this program as well. To this end it is proposed that the program which was pro-

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Report on RUSSIA



Although retired as vice pres. of Crown Zellerbach Corp., Edward P. Stamm is quite active as consultant forester

A HIGHLIGHT of the 84th Annual Meeting of The American Forestry Association at Bedford, Pennsylvania, was the report by AFA Vice President Edward P. Stamm on his recently-completed 32-day tour of Russia where he studied Soviet forestry problems. Mr. Stamm, a retired vice president of Crown-Zellerbach Corporation and generally regarded as one of the top logging engineers and tree farmers in the nation, made the trip as part of a U. S. task force of leading public and private foresters. A Russian task force which will make a similar tour in the United States arrived in this country early in October.

The great difficulties faced by Soviet foresters and loggers in transporting and marketing a wealth of timber in Russian Siberia were enumerated by the speaker, who, at the same time, highly praised what he termed the "Russian love of work—a love that is equally strong on the part of both men and women."

Russia today has two billion acres of forest land of which approximately 80 per cent is in Siberia. In travelling 5500 miles in Russia, Mr. Stamm said he became convinced that the Soviets must overcome three major obstacles if they are to successfully log, market and perpetuate timber that is more comparable to Ontario and Quebec forests than that in the United States. The problems are:

1) In view of the fact that most of the major Russian rivers flow north to the Arctic, the Soviet government faces a major hurdle in building transportation systems that involve hauling timber a minimum of 1500 miles and a maximum of 3000 miles by railroad to European Russian markets or their major accessible ports. Timber can be transported from Siberia via Arctic waters, but here the open season is relatively short although Soviet experimentation with

ice-breaking vessels may prove helpful.

2) Mr. Stamm was told that timber production and marketing still has a relatively low priority in the Soviet production pattern where major emphasis is placed on production of housing and rocketry, arms, machine tools and other defense items. Even if they succeeded in obtaining higher priorities, Russian forestry leaders said there was some doubt as to whether they could recruit sufficient manpower to harvest the timber in remote Siberia due to an unprecedented exodus to the big cities.

3) From the standpoint of long-term forest management, reproduction in Siberia presents a very real problem. Growing seasons are short, the soil heavily glaciated, and obtaining good seed crops a major problem. (Good seed crops only mature at interval. of 10 to 15 years because of the cold and the short summers.)

All told, Russia has two billion acres of forest land or four times as much as the United States, Mr. Stamm said. However, much of the more accessible timber in European Russia has been heavily cut with the result that more than 80 per cent of Russia's timber is in Siberia. Soviet foresters told Mr. Stamm that they can produce 130 billion board feet of timber a year under sustained yield. Timber production in the United States today is just under 50 billion board feet, although Mr. Stamm said Americans could reach the 100 billion board foot mark in the next 50 years providing "they have the guts to immediately accelerate the essential work and pay the major costs of a greatly improved forestry program, and providing other uses don't take forest land away from us too fast."

The average growth rate of timber in

Russia ranges from one third to one fourth what it is in the United States, and our growth can be increased, he added.

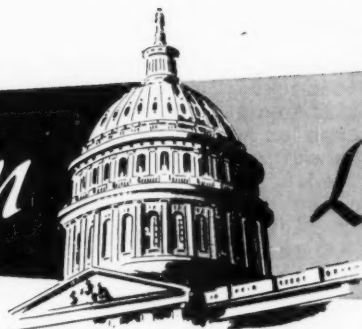
Evidence that American scientific and lay publications are today being received in increasing number at Russian schools was reported by the speaker. At the big S. M. Kirov Academy of Forest Technology at Leningrad, professors proudly displayed copies of AMERICAN FORESTS (March, 1957) containing Forester E. Sigurd Johnson's account of his visit to that school.

Americans could well afford to more closely emulate the Russians in their great love and respect for work, Mr. Stamm told the convention. The Russian women especially are extraordinary, he said. They do hard, manual labor with zest. But when he made so bold a comment as to suggest that they "put them in slacks" when he observed women at work on scaffoldings with skirts a-flying, his Russian hosts were shocked. "That wouldn't be feminine," they told Mr. Stamm. In the course of his junket, Mr. Stamm saw women tamping railroad ties, using jackhammers and handling cordwood.

One thing that greatly surprised the visitors is the fact that relatively few people are actually members of the Communist Party and that bright young men and women have to strive mightily to be admitted into this exclusive group. While there are no class distinctions in Russia, Mr. Stamm said they have a "Royal Family" all the same; this consists of the top administrators in the party closely followed by the scientists and other members of the intelligentsia, and precocious students, all of whom enjoy special privileges.

A tremendous housing boom is now
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Washington



Lookout

By ALBERT G. HALL

NATIONAL PARKS ADVISORY BOARD RECOMMENDS GLACIER PEAK PARK. The Lake Chelan-Glacier Peak region of Washington's northern Cascade Mountains was recommended last month for preservation in the National Park System by the Advisory Board on National Parks, Historic Sites, Buildings and Monuments. The recommendation of the board sharpens the issues involved in the management and use of some 800,000 to 1,200,000 acres of national forest land. The U. S. Forest Service has proposed the establishment of a 422,295-acre wilderness area which would include much of the proposed national park. The establishment of a national park would involve the transfer of the area from the jurisdiction of the Forest Service, Department of Agriculture, to the National Park Service, Department of the Interior. Hearings were held on the Forest Service proposal last month. Under the Forest Service proposal multiple-use forest management in valley areas would provide for both timber harvest and accessible recreation, but would reserve the wilder areas for wilderness enjoyment.

THE IMPACT OF PARK STATUS DEMANDS ON NATIONAL FORESTS AND OTHER LANDS is causing serious concern among both public and private forest land managers. In addition to the Glacier Peak area, discussed above, the proposed Ice Age National Park in Wisconsin and the Oregon Dunes Seashore in Oregon would result in losses of forest by the Forest Service. Hearings were held on the Oregon dune proposal early last month, with sentiment much divided. Governor Hatfield of Oregon opposes the plan to establish the seashore as a federal area. His Natural Resources Advisory Committee which has studied the proposal at length supports him in his opposition. Both public and private areas suggested for inclusion in the seashore area are reported to be in excess of 90 per cent open to public access. One observer reports that about all that is needed to improve the area is a small increase in Forest Service appropriation for recreational developments.

NEW NATIONAL AND STATE PARKS MUST BE ESTABLISHED before the United States "runs out of land," a spokesman for the Audubon Society told a recent regional meeting of the Garden Clubs of America held in Washington, D. C. The Garden Club was also urged to support proposals for parks in the Oregon and Indiana dunes areas, and the Cape Cod National Seashore as part of a broad program to save ten shoreline areas from private development. The insistence on early action on these proposals expressed by their proponents, prior to the now-developing study by the National Outdoor Recreation Resources Review Commission, has raised questions as to motivation: Are these moves designed to put pressure on the commission? Is it expected that the commission may fall short of its target of providing the basis for adequate protection and preservation of needed outdoor recreation sites? Laurance S. Rockefeller at the recent meeting of The American Forestry Association, in Bedford, Pa., indicated the broad and realistic thinking of the commission at this time, when he stated that demands for recreational use of land must be considered "in the light of the need for houses, factories, highways, grazing land, timber production, and other things that also require land. He also asked a question that may be most difficult to answer, but which demands an answer before sound planning can be undertaken: To what extent can we expect changes in the recreational habits, actions and desires of the public in 1976 and in 2000 to affect this (recreational) need?" In the meantime, many states are going ahead with park plans without looking to the federal government. For example, a newly-formed Michigan Parks Association will work to assist state conservation department officials in obtaining adequate financing of state parks. The department's ten-year plan calls for expenditures of some \$146 million, of which \$58 million would be used for land acquisition.

FOREST RECREATION RESEARCH GIVEN HIGH PRIORITY. Among other research efforts of first-ranking importance, according to the Forestry Research Advisory Committee to the

Secretary of Agriculture, is research on the problems of forest recreation. Reiterating its recommendation of last year, the committee at its eighth annual meeting in Oregon in August, said: "These problems yearly become more pressing and call for research on which to base guidelines for their solution, so that public needs may be met and values safeguarded." Two pilot studies in separate regions are suggested. Other high priority research needs reported by the committee: Hydrologic and erosional processes looking toward greater water yield without damage to forest watersheds. Weather and fire behavior, including the response of fires to fuels, weather, and topography. Fire fighting methods for more effective and less costly suppression of large fires. Improvement of forest insect surveys to evaluate significance of early-stage outbreaks, looking toward controls. Causes and means to control epidemic forest diseases to forestall losses of resources. Refining log and tree grades to encourage less wasteful use.

ACCESS TO FEDERAL LANDS REPORTED TO BE BLOCKED BY PRIVATE LANDS was the subject of a hearing held last month in Portland. Reportedly, private landowners, principally ranchers, have closed off many areas of public lands to easy access by hunters and fishermen. Their valley holdings form a formidable front to the federally-owned mountain lands beyond. Purpose of the hearing was to determine how access can be effected and still protect the property and interests of the private landowners. In separate reports to Senator James E. Murray, chairman of the Senate Committee on Interior and Insular Affairs, both the Secretary of Agriculture and the Secretary of the Interior indicated that many access questions could be answered by provision of adequate federal roads. The Secretary of Agriculture concluded his report by reminding the Senate committee that local access is a local problem. "Clearly local levels of government have the principal responsibility for providing the roads that are predominantly for local use." It was pointed out that the private landowner has the legal right to deny the public both access to his land and use of his private roads, and that some land owners are reluctant to permit access because of abuses suffered at the hands of the public users. Both departments are moving toward solution to questions of access; but they agree that further study is needed. "It should not be concluded," said the Secretary of Agriculture, "that all access to public lands for hunting and fishing purposes is blocked because adjacent landowners deny permission for the public to cross their lands in passenger vehicles. In such cases the public lands may be accessible by trails or ways which by-pass the private ownerships or approach the blocked area by another means."

SENATE SELECT COMMITTEE ON NATIONAL WATER RESOURCES whose program and objectives were described in the October number of *American Forests* has announced several changes in its hearings schedule. Pending hearings are: Topeka, Kans., Nov. 18; Des Moines, Iowa, Nov. 19; Santa Fe, N. M., Nov. 20; Salt Lake City, Utah, Nov. 23; Fort Smith, Ark., Nov. 28; Oklahoma City, Okla., Nov. 30; Alexandria, La., Dec. 1; Columbia, S. C., Dec. 2; Jacksonville, Fla., Dec. 3; Augusta, Maine, Dec. 7; Boston, Mass., Dec. 8.

Robert W. Sawyer

Members of The American Forestry Association and conservationists everywhere were saddened to hear on October 13 of the death of Robert W. Sawyer, of Bend, Oregon. As editor and publisher of the *Bend Bulletin* for more than 36 years, Mr. Sawyer became one of the outstanding spokesmen of the century on reclamation and conservation affairs. In awarding him its Distinguished Service Award in 1958, The American Forestry Association lauded the high caliber of his well-known conservation editorials and praised his life-long service to good conservation practices in the state of Oregon and the nation. Until 1958, he was an active board member of AFA. *AMERICAN FORESTS* in a future issue will present a full length article on Mr. Sawyer's position in American conservation.



to business
associates.

(SEE PAGE 45)

Editorial — THANKSGIVING

A Washingtonian (one of the imported variety) gloomily reports that he is looking forward with no great relish to eating a melancholy Thanksgiving dinner alone at his club. It's a bleak prospect, he admits. Last year, when he was forced by circumstances to undergo the same ordeal, his waitress, who was looking forward to a sumptuous repast at home with twenty members of her family, was openly sorry for him. Yes, he had relatives, he told her, but they didn't seem to know about him.

This is not surprising in an age when we seldom have more than a nodding acquaintance with our first cousins and stutter over the names of all others down the line. We might as well face it—families have drifted apart. In this era of excessive bustle and hustle we seldom get together in quantity any more.

Our grandmother would have deplored this as shocking and, discounting all flimsy excuses, would have set about eradicating this iron curtain in family affairs. To her, family was everything, and she was especially pleased when she succeeded in digging up another relative, no matter how remote the connection, and would talk about it with the gusto of an explorer describing a new ice shelf he had uncovered in the Arctic. We can still see grandma busily engaged putting another leaf in the big oak table and smoothing down a gleaming white tablecloth as she cheerfully observed "always room for one more," when informed that Cousin Henry's relatives on his wife's side were coming for Thanksgiving dinner.

Grandma gloried in work. It would be hours before daylight on Thanksgiving morn when her lights would twinkle on. She would dress in a jiffy and start for the kitchen with firm purpose, tying her apron strings as she swept down the stairs. After coffee and doughnuts she would pause briefly, lightly fingering the cameo brooch on her high lace collar, as she mentally organized her Herculean task. Sometimes she talked to herself as she enumerated such vital statistics as "ten pumpkin pies, no, twelve—better play it safe." Grandma was a great organizer, and the secret of her success was production.

After milking, grandpa would bumble around clumsily in the kitchen and annoy grandma with idle talk and details she had already disposed of. She always made short shrift of him and would shoo him out, permitting him only to replenish the big woodbox by the roaring cookstove with armfuls of pine, chestnut, and maple from the adjoining woodshed.

Then the relatives would start coming from as far away as ten miles. There would be much pecking at cheeks and a mighty taking off of wraps. The women would scurry into the house but the men would go down to the barn where grandpa had charge of putting up the horses, letting down timothy hay, cleaning up any harness that might have been muddied enroute, and parking the carriages in the barnyard—Uncle Bill's first, as he had the farthest to go and left the earliest. While sitting around on the grain bin the men would make much ado over the fact they weren't wanted in the house, but actually they preferred the warmth of the horse barn with its brightly colored picture of Dan Patch and one of grandpa winning the sulky race at the state fair.

In the house, grandma would find time to admire the new babies, compare ailments, and cluck admir-

ingly at new best dresses while skipping in and out of the kitchen which, by this time, would be exuding tantalizing aromas. Then the men would come in from the annual tour of the farm, having admired grandpa's woodlot, heard his annual discourse on what fields he was going to plant to what next season, inspected his apple and potato bins, and sampled the hard cider in the cellar.

At this point, grandma would briskly start the transportation of food from kitchen to dining room. To her, this was the crucial point of the day and any child who got under foot was told to "look sharp."

Then everybody would sit down, the rustle resembling that of a church congregation receding to its pews after singing the first rising psalm. Grandpa would say grace and reach for the carving knife and everybody would look up after the "Amen," unfold their napkins, and take a drink of water. For some reason, conversation always seemed to dwindle as grandpa solemnly carved and served, with grandma hovering over the table, her oven-warmed face cherry red, indulging in such little hypocrasies as, "I really don't know what happened to those dumplings to make them so heavy," and Uncle George would say, "Oh, pshaw!"

Then the multitude of relatives would fall to, and helping would follow helping until they would rise unsteadily, a glassy, lackluster look in their eyes, and move to the parlor. There they would sit uncomfortably on the bristly horsehair furniture.

Family affairs would now be taken up, and when conversation took a tart turn, due to sluggish digestion, grandpa would cast his eye over the younger fry. The youngsters would squirm at this point for they knew what was at hand. "I think it's time we heard from the young folks," grandpa would say and fond mothers would immediately start pushing their children into the center of the room to recite, sing, or do bird imitations.

In truth, these performances were generally anything but talented, with the performers squirming uneasily in a manner that would result in the child's mother leaning toward his father and stating in a low but audible tone, "Remind me to take John to the you-know-what when he gets through." Applause would be enthusiastic but perfunctory if some unhappy child gave the impression of enjoying what he was doing. As Cousin Tom would comment in reference to one youthful entertainer, "Don't let that fiddle get into that boy's blood."

By this time the shadows would be lengthening in the orchard on the south side of the house and the family would start rising, Uncle Bill first by reasons of seniority and distance, and leave.

Then it would be quiet at the old homestead again. Grandpa would shuck off his shoes and wiggle his toes against the brass andiron of the fireplace. Then, reaching to the apple bowl, he would skillfully start paring a Northern Spy, the thin skin one long unbroken length. Grandma would sit quietly nearby in a straight-backed chair, hands folded. But her eyes would dance as she mentally went over the day's triumphs. The dumplings really were *very* good. They would be even better next year. And the fields had been productive and the family growing.

God was good.



Whistle on antique steam tractor at Clouse farm

“working together is what it takes”

By JAMES B. CRAIG

*All Annual Meeting Photographs
by Vincent A. Finnigan*

MEMBERS of The American Forestry Association liked what they saw and heard in Pennsylvania last month. True, Penn's Woods—even the sugar maples—did not present their usual riot of fall colors due to the unseasonable warm spell. But haymows were bursting with hay, cattle looked fat and glossy, and the branches of apple trees bowed low under the weight of a big crop. Amber cider, apples, peaches, and pumpkins on sale at numerous roadside stands made an attractive show, but it was the fragrant aroma of the orchards that really enchanted the visitor. When one stopped to stock up, be-aproned housewives assured you that the Jonathans and Golden Delicious' are especially good this year.

There's no place like a farm in the fall. To many, the tour to the fine farm of Mr. and Mrs. Glenn Clouse in Bedford County was a highlight of the 84th Annual Meeting. The whistle on a 40-horsepower steam engine of 1922 vintage tooted a shrill welcome as the AFA busses rolled in. Soon the visitors were viewing outstanding accomplishments of a first-rate grassland farmer from their perches on hay wagons hauled by tractors. That evening the same young men (and their ladies) who had driven the tractors danced quadrilles fashionable in President Buchanan's era at an ox roast and barn dance at Shawnee State Park. Corn and small grains are also raised on the Clouse farm, but grasses—rotating grasses—are the big crop and the chief instruments that hold erosion to a minimum. That and the art of the Soil Conservation Service, the district foresters, and a host of other “co-operators”—nineteen in all by actual count.

“Working together is what it takes,” ebullient “Corky” Miles, woodland consultant for the Soil Conservation Service, told smiling members of the association in what was perhaps the most significant quote of the 84th Annual Meeting. Cooperation, one learns, is no myth in this county and state. It starts right at the top, where liaison between the Pennsylvania Agriculture Department and the Department of Forests and Waters is unusually close. Hand in hand with this effort goes the program of the non-tax supported Game Commission with its border cut-backs and food and cover planting programs, and the stocking work of the Fish Commission, also non-tax-supported. From there it goes down to a majority of the 67 Pennsylvania counties. For instance, there are now 51 Soil Conservation Districts in the commonwealth caring for the needs of 143,000 farmers.



"Corky" Miles explained SCS activities



Square dancers kick up their heels at hoe down at the Shawnee State Park

To date, 37,000 acres have gone into strip cropping, and the goal is one million acres, technicians tell you. Another million acres should go into trees. On the Clouse farm one sees trees as far as the eye can reach on the highlands, but farmer Clouse admits, on questioning, that he "hasn't had much time as yet to work with his woodlands."

Mr. Clouse and, in fact, most of the farmers in the area, hope to do more along this line. At the same time, one learns that farmers in Pennsylvania are very flood-shy. They blame heavy cutting 40 and 50 years ago for many of their past flood problems. As one told us, pointing his pipe in the direction of Mr. Clouse's woodlands, "Those forests hold water—why tinker with them too much when that's the main job they should be doing?" Mr. Clouse nodded his head in agreement. "This farm," he told us, "was first chartered by Thomas and Richard Penn. In early deeds it was stipulated that no timber could be cut except for farm buildings. All my buildings were constructed from timber from my land, and that's been about the size of it so far. But we can probably do more when we know for sure."

Geographical areas certainly vary, one reflects. In Tucson, Arizona last year, AFA members heard how landowners desperate for water were trying to find out how to "make the water come down." Here in Pennsylvania, farmers who have been buffeted by too many floods were more interested in how to "make it stay up." If there is one scientific fact AFA members have latched onto in recent years it is that no two geographical areas are quite alike—that the problems in all are varied and intricate. That is why the standards of research must always be held high by organizations like

Farmer Glenn Clouse supervises grandson Mike's efforts at steering a tractor



Inspecting fire fighting suit are Mrs. S. G. Fontana (left), Mrs. William Huber



Carl Poorbaugh (right) demonstrates equipment in new saw mill near Bedford for Kate Swift, New York, and G. P. Sykes of N. C.

Scotch pine tree catches attention of Henry Sipe (left) and John Wade



The American Forestry Association. To do otherwise is too risky.

One somewhat reticent farmer who gradually warmed up as the tour continued said he was pleased by the interest AFA members showed in their stock. "Many foresters don't seem to be much interested in livestock," he commented, "but here it's our money in the bank." The Clouse farm boasts 50 head of handsome Holsteins that produce an even ton of milk per day. As a boy, one recalls that the farmers in the area in which he was raised were proud of the volume of milk produced by their Holsteins but were a little self-conscious about the low butter-fat content as compared with Jerseys and Guernseys. The change in market demands today is reflected by the fact that Bedford County farmers brag about the "low butter-fat content." At the same time—due to research with grasses and other crops—they can boost that butter-fat content to heights undreamed of years ago if they so desire.

Agriculture's progress is little short of phenomenal, one reflects as he looks over the Clouse haybarn. Years ago, young boys were stuck in the loft where they forked desperately to prevent their being engulfed by a tidal wave of hay that would sweep them right out of the mow. Today, the tightly-packed bales

are piled tier on tier like so many cakes of ice in an old-fashioned ice house. And the farm equipment; it does everything. Up the road a piece one encounters another modern-day phenomenon (see page 32) where a sugar bush has eliminated the old taps and buckets of days of yore. Instead, they pipe the sap right into the condensing vat by plastic hose lines direct from the tree!

Elsewhere, the Annual Meeting was equally productive. To list the highlights:

1) While the nation must continue to guard against inflation, AFA President Don P. Johnston said the possibility of a thaw in the cold war and a reduction of armaments may open up undreamed-of expansion of resource programs. In view of that possibility, he recommended that plans be laid for a third Higgins Lake conference followed by a Fifth Forest Congress to formulate long-range plans for AFA's Program for American Forestry.

2) No forestry keynote address in many months has sparked the amount of comment, pro and con, that came in the wake of the speech by Dr. Eric A. Walker, President, Pennsylvania State University (see page 18). Dr. Walker proposed a multi-tiered form of forestry education which would produce gradu-

ates in two, four, and seven-year brackets. The seven-year men would be what he called the "innovators"—the thinkers, the theorists, and the philosophers. Forestry needs men like this, he stressed, and needs them badly. More will be heard of this, pro and con. Meanwhile, Karl T. Frederick, chairman of AFA's Executive Committee, called it "the most scholarly and profound forestry address I have heard in many years." On the other hand, a number of foresters were frankly skeptical.

3) In another star address that might have been entitled "The Spiritual Side of Conservation," Secretary of Internal Affairs Genevieve Blatt declared, "We aren't conserving trees and forests just to save a tree or a forest full of trees. We are doing it to save man, himself. Our water supply, our supply of an endless list of other natural resources, our recreational opportunities, our chance to save our young people from our own mistakes—these and a thousand other things are involved in our ceaseless fight to save our forests."

4) Another educator, Dr. S. T. Dana, director of AFA's land ownership study program, told the convention that in his judgment the need exists today for a revival of the old Civilian Conservation Corps, perhaps in somewhat different



Standing ovation was given Mr. George H. Wirt, Pennsylvania's chief forest fire warden, 1901 to 1946, and a leader in forestry resource development, at the meeting

The Honorable Genevieve Blatt, Pennsylvania's Secretary for Internal Affairs, said we are not conserving trees just to save trees, but are doing it to save man, himself



form, for the purpose of "recreating" a million young men who are now "unemployable" and who would do useful and constructive work in the forests. Dr. Dana based the need for such a revival on four key points. They are: a) to prevent delinquency in the same sense that we attempt to prevent forest fires and to "recreate" delinquent and near-delinquent young men; b) to provide useful employment for a million or more young men not now employable unless something is done about them soon; c) to accomplish useful construction objectives. (Dr. Dana, a member of Mr. Rockefeller's ORRRC, also said we now have enough public land for watershed and forestry purposes, but that more will be needed for recreational purposes); d) the cost to the taxpayers of reviving a new version of the CCC will be less in the long run than that of dealing with erring boys in the courts and by other means.

Dr. Dana's CCC statement was applauded in what was easily the most spontaneous outburst at the convention. At the same time, there were those who suggested that the proposal was inflationary in nature, not in line with the President's program. Why can't the states do this job, those people asked. One written question asked, "Why can't the

police handle it and who's going to pay for it?"

Dr. Dana replied, "The question answers itself. The police are the actual firemen who fight the fire after it has started. I am speaking in reference to preventing the fires before they start. It has also been proven beyond reasonable doubt that every juvenile delinquent costs the taxpayer in the neighborhood of \$25,000. The cost of putting him in a camp under healthful influences is considerably lower."

Dr. Maurice K. Goddard, Secretary of the Pennsylvania Department of Forests and Waters, said that the commonwealth has two such camps. "A total of 150 boys have 'graduated' from them, and only three have returned—a pretty fair average," he averred.

A. B. Rechnagel of New York City said his state has a similar camp caring for the needs of 160 boys and that Governor Rockefeller has recommended the establishment of six more. Unlike the CCC, there is no military training and no compulsion in the New York camp, the member stressed.

"I agree 100 per cent with Sam Dana," another member said. "In the Depression we proved what can be done in rehabilitating three million young men who have since been a credit to the na-

tion. We now have a million and a half young men in a similar situation—maybe two million—and we ought to get cracking if indeed, as has been said here, humanity is our greatest resource."

5) Members who were questioned later said they were impressed by an address by Laurance S. Rockefeller, chairman of the Outdoor Recreation Resources Review Commission (see page 19). Mr. Rockefeller asked the association for help in pointing up ways and means whereby better use can be made of private lands for public recreation—a category of use that "must continue to play an important role in our outdoor recreation program, both for the immediate future and for the long pull."

6) AFA's Board of Directors expressed enthusiasm for the entire program of Pennsylvania's Department of Forests and Waters. As spearheaded by Secretary Maurice K. Goddard, this program proposes to build a park within 25 miles of every citizen in the commonwealth. AFA's board urged that the association continue to play up this program and urge its adoption wherever possible in every state in the Union on the basis that meeting mounting recreational needs will depend, in the final analysis, on the actions in the next 5 or

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Dr. Eric A. Walker was keynote speaker



Members found Dr. Walker's ideas on forestry education extremely thought provoking

Keynoter says,

"Boost the Standards"

By DR. ERIC A. WALKER

President
Pennsylvania State University

IF I can believe everything I read, each year forestry schools across the country are graduating three to five hundred more foresters than are needed by the industry. In addition, about 85 per cent of these graduates are not fully qualified academically to serve as professional foresters. Yet many of them are evidently accepting positions that demand something less than a full use of the skills and knowledges that they do possess.

Perhaps I should explain this. According to a speech by Mr. W. S. Bromley, executive secretary of the American Pulpwood Association, the current annual demand for new forestry personnel numbers about one thousand. Yet in 1957, almost 1400 degrees in forestry were conferred by some 38 different colleges and universities. That leaves some 400 graduates without jobs in the field for which they were trained.

Almost 85 per cent of these graduates—over 1100 of them—received degrees at the four-year baccalaureate level. Yet I read that a "thorough coverage of the necessary foundation subjects and the essential professional subjects is practically impossible in the usual four years." Since, insofar as I can find out, these are fairly typical figures for recent graduations, I can only conclude that most of the young men entering the profession of forestry are not wholly qualified to do so.

I should like to add that these figures do not include the 120 or so annual graduates of associate-degree and other programs of less than four years' duration. This brings me to my third "discovery"—that many of the four-year

graduates are accepting positions in which they are underemployed—in which their knowledges and skills are underutilized.

I'll admit that the statistical base for this conclusion is not as solid as is that for each of the other two. Yet I found several hints—some of them subtle, others not so subtle—that the graduates of these "subprofessional" curricula, as they are called, compete with the four-year men for employment. Perhaps this is true. As an outsider, however, I should like to suggest that the reverse seems more logical—that the four-year men are competing—if, indeed, there is competition—with the two-year graduates.

As an avid football fan, I am certain that most of our undergraduate football players would find it impossible to compete successfully with their professional counterparts. The professional players, on the other hand, would have no difficulty whatsoever in competing with the amateur athletes for positions on the college teams. If the college players could compete with the professional players, I would have to conclude that there isn't as much skill required for professional football as I think there is. In the same way, if the "subprofessional" forester can compete with the professional, I would have to conclude that there isn't much to forestry as I think there is. Neither you nor I, I am certain, is willing to entertain such a conclusion.

Mr. Bromley isn't worried that future forestry graduates will find no jobs waiting for them. He believes the business expansion expected in what he calls

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"A MAN'S HOME IS HIS CASTLE

*and that goes for the land around
the house"*

By LAURANCE S. ROCKEFELLER

Chairman, Outdoor Recreation Resources Review Commission

THE theme of your meeting—Resources and People—A Challenge of Co-existence—is one of particular interest to the Outdoor Recreation Resources Review Commission, for our central concern is closely allied.

This evening I would like to discuss one particular area of this subject. But, before doing so, I would like to take this opportunity to give you a brief report on the work of the commission.

As you may know, the Outdoor Recreation Resources Review Commission has been in existence for a little over a year. However, it did not receive its first major budget appropriation until last month. This means that the commission is now able to operate in full swing. I should point out, however, that our first twelve months without an appropriation were far from unproductive. During this period, we held six meetings of the commission, laid out broad approaches to the task we were assigned, set up offices, organized a staff, arranged for liaison with federal agencies, established contact with all state governments, and recruited the Advisory Council.

The Outdoor Recreation Resources Review Commission is composed of fifteen members, including the chairman. From Congress, we have four senators and four members of the House—four Republicans and four Democrats. Each was chosen by the Congressional leadership for interest and experience in the areas we are to study. All are members of the Committee on Interior and Insular Affairs of their respective bodies. Our commissioners from private life also bring a diversified wealth of experience

and knowledge. We are particularly pleased to have three active members of The American Forestry Association—Mrs. Katharine Jackson Lee, Bernard Orell, and Dr. Samuel T. Dana—serving with us.

The Advisory Council of twenty-five members further increases the stockpile of wisdom upon which we can draw. The diversity of associations and the positions of leadership of its members will give you an idea of how important this group is. Our list includes, among others: the director of a state game and fresh water fish commission, the director of the De-

partment of Legislation of the AFL-CIO, the director of a national travel organization, a newspaper editor, and top executives of paper, coal and power companies.

In addition, there are fourteen liaison officers from the federal agencies most directly concerned with outdoor recreation. These are all of sub-cabinet or comparable rank.

To work most effectively with the states, we asked the governors to appoint officers with whom we might deal. All fifty have promptly complied and we

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Mr. Rockefeller (r.) was guest of honor at banquet

Mr. Rockefeller was impressed by the "Howdy," Good Outdoor Manners program



IMPACTS UPON FORESTS



Panel for morning session included, from left, Dr. Harold G. Wilm, Dr. Delyte W. Morris, moderator, Mr. Conrad L. Wirth, Mr. Gordon B. Bonfield, Dr. Stanley G. Fontana, chairman, and Mr. Jesse Honeywell

INDUSTRIAL PRESSURES

By GORDON B. BONFIELD

*Senior Vice President
American Box Board Division
Packaging Corporation of America*

MY JOB here is to give you an industrialist's insight into the demands industry expects to make upon the forest resource, and how these demands will affect the forest. But just what is a so-called industrialist? A cigar-chomping, rough-riding, self-centered millionaire, with but one aim in life—to make money? There may be a few of this description around, but in the America of today, the industrialist is just another man trying to make a living, with perhaps more worries and problems than most jobholders.

Really, we are *all* industrialists in America today. What man is so isolated that he does not grease the wheels of industry constantly. We shop at the supermarket. The meat we buy is mass-produced on highly mechanized farms which use the land resource to its maximum. If it were not, we couldn't afford it. It is packaged in attractive containers produced—I can say with pride—under sanitary conditions by multi-million dollar machines which use huge quantities of a forest-grown resource each hour. If it were not so packaged, we could expect the consequences of unsanitary food delivered to millions of people.

Do we live within walking distance of our places of business? No. We expect the automobile to allow us to live where

we prefer to live and yet get us to the places where our paychecks originate. The automobile is an insatiable user of many resources: steel, copper, aluminum, coal, petroleum and dozens of other raw materials. Yet few Americans would care to do without it. In fact, the trend is to have two, or even three cars in every garage.

This point I make: That each and every American makes his living directly or indirectly from industry. He depends upon industry for practically all of his material wants. His home, his children's school plant, and most of his many possessions are made possible through achievements of modern industry. Virtually everyone has invested, directly or indirectly, in industry with stocks or bonds—even our banks and insurance savings are frequently invested in industry. If you wanted to remain a "purist"—aloof from industrialization—you could not. Wilderness trappers—about as near to modern day pioneers as one can get—use mass-produced steel traps, aluminum canoes, canned foods, and hire modern aircraft as transportation. We are all in this thing together, and there is no way of backing out. . .

But I am here to talk on "impact." The impact of industrial pressures on the forests. What does the word "im-

pect" mean? According to Webster, it is: "A striking together; a collision communicating force." Also, "the single instantaneous stroke of a body in motion against another body." I don't like the first definition: "A striking together. A collision communicating force." It doesn't fit. There is not a terrible collision implying destruction. Perhaps we should view this in light of the second definition: "the single, instantaneous stroke of a body in motion against another body." Or, to fit the definition to

Dr. Delyte W. Morris, president of Southern Illinois University, was outstanding as the moderator of this panel



REST RESOURCES

our case: "The effect of one fast-moving body upon another." That may not be strictly according to Webster, but it fits. Let's put industry in the role of the fast-moving body. Can we slow it down? Is that the manner in which the impact may be alleviated? The answer is NO. And that is not just my opinion. Look at the facts:

Population is probably the most important single reason why we cannot slow down industry. On the first Christmas Day, world population has been estimated at 250 million people. By the time the Declaration of Independence

was signed, the world held 700 million people. In 1931, just under two billion. Today, it is just under three billion. . .

Every generation of man since the beginning of time has had more material things than the generation preceding. As man's knowledge progressed, his wants and needs increased. We cannot expect to change this trend in our lifetime or in the foreseeable future. We must expect that people will continue to increase their individual demands for industrial products—products developed from one or more of our natural resources as raw material.

In the industry I know best—paper and paperboard—this is what has happened: Just before the turn of the century, per capita consumption of our product amounted to 60 pounds per person per year. By 1930 paper and paperboard consumption had risen to 200 pounds per person. Today it is well over 400 pounds.

Lumber use, while not growing at this rate, is not apt to decline, according to experts in that field. Demands for other forest products such as hardboard, chipboard, charcoal, and wood chemicals we
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SOCIAL PRESSURES

By CONRAD WIRTH

*Director
National Park Service
Department of the Interior*

WHAT are the social pressures that are creating such impacts upon forest resources and the remaining natural areas of the country?

We all know that they are pressures resulting from a rapidly expanding urban population that is not satisfied with the old cooped-up way of life in cities. They want the advantages of the city along with a life, at least part time, in the country.

These people of the vast new suburbia are ceaseless travelers, jamming highways, parks, forests, beaches, searching out remote spots in the hope that fishing and hunting will be good or that they can find a place free of the crowds and noise of the city.

And the expanding economy and technical advances have made this possible—more money, more time to do as we please.

Outdoor, non-urban recreation is high on the preference list. This was brought out by a study we made in 1957 of outdoor recreation activities and preferences of the population living in the Delaware River Basin.

It was found that six out of seven people in the Delaware River Basin prefer rural areas to urban areas for day or overnight trips. Half of the adult population had taken at least five one-day trips

within a year; about every third person had taken at least two overnight or weekend trips; every tenth person had taken at least 10 overnight trips within the year; and 54 per cent of those interviewed had taken a vacation away from home.

As might be expected, the recreational areas used most frequently for day trips were, in order of frequency: ocean beaches away from cities, state parks or forests, ocean beaches in or near cities, and amusement parks.

The principal activities residents of the Delaware Basin indicated that they would like to engage in on day outings were, in order of frequency: swimming, picnicking, going to the beach, and sight-seeing in the country. Other important ones were visiting friends or relatives, fishing, boating, visiting historic sites, outdoor sports and games. A forested landscape is an essential element in the enjoyment of nearly all these activities.

Lack of facilities, high costs, overcrowding of areas, and heavy traffic were major factors which prevented more frequent participation in outdoor recreation.

The findings of other recreation studies sponsored by the Park Service in the Niobraro Basin of northern Nebraska and southern South Dakota, in the Arkansas-White-Red River Basin, and in three



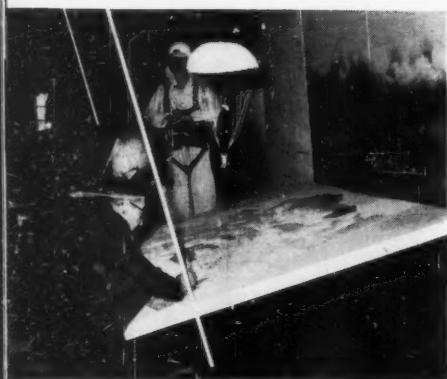
Mr. Rockefeller looks over BLM exhibit of fire fighting conditions in Alaska

areas of the New England-New York region were very much the same.

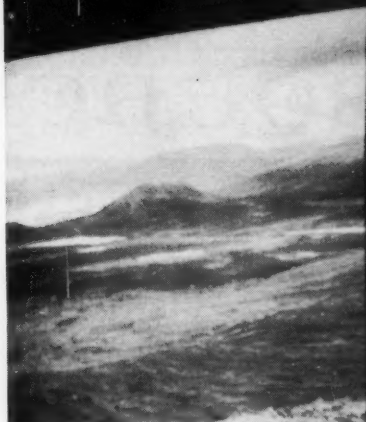
All four studies indicated that recreation needs of the people cannot be met except by the provision of adequate public recreation areas, located within reasonable distances from population centers. In general, the most popular forms of recreation in all regions were those in which the entire family could take part, which were relatively inexpensive for the participant, and which required areas or facilities that most families could not provide for themselves.

One clear-cut conclusion to be drawn from these studies is that the most popular non-urban outdoor activities require adequate land and water areas. It is obvious to most of us concerned with out-

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C. C. Freeburn (left) and Henry Clepper examine area on BLM's Alaska fire map



Excellent color slides of conditions in Alaska illustrated the address by Jesse M. Honeywell, Area Administrator, Bureau of Land Management, Alaska

ECOLOGICAL INFLUENCES

By H. G. WILM

Commissioner

New York State Conservation Department

MY particular topic in this very interesting panel is, as you can see, very broad in scope. As ordinarily defined in research, "ecological influences" include all the interrelationships of the forest resource with its environment. However, I shall plan to confine myself to the narrower field involving the relationships of forest vegetation to climate, soil, and water—especially as these are affected by man's management of forested watershed land.

Interestingly, thoughtful men have been concerned for a good many centuries with these relationships. Many conjectures, numerous pieces of philosophical reasoning, and some measurements have been devoted to these influences, and particular interest has been aimed at the bad effects that have been obvious as the result of removing forest vegetation from watershed lands. . . . I should like to summarize briefly some of the principles which have now been established and then to indicate how these principles are affecting current philosophies on the management of forest lands.

1. A multitude of scientific measurements bears out the qualitative knowledge which any forester already has on the local influences of forest vegetation on climate. As suggested above, a forest tends to be somewhat cooler and moister in summer weather; it reduces wind movement a great deal within its own body, and it tends to ameliorate the

severity of winter climate to a small extent.

2. Any influence of forest vegetation on precipitation is much less definite and is almost impossible to substantiate by quantitative measurement. There seems to be a general feeling, however, that the removal of forest vegetation in zones of climatic tension—as in semi-desert areas—may have some effect on general climate. More definitely it has been observed that forest vegetation takes advantage of extremely moist maritime air through condensation. This phenomenon has been observed particularly in forest areas of West Africa, where moist tropical winds come in from the Atlantic, and in the redwood and douglas-fir forests of the Pacific West in this country. In effect, by inducing condensation of such water, forests may be said to increase the local precipitation.

3. Aside from these special and unusual effects, forest cover is like any other kind of vegetation in that it consumes water through interception, transpiration, and evaporation.

4. In general, removing part or all of the forest cover can be expected to reduce this consumption of water, thus making more water available for total yields. Note that the phrase "total yields" means the overall volume of water leaving a watershed in surface streams or underground flow; it conveys no implication as to the magnitude of flood peaks or the presence or absence of sediment which

might make the water less usable.

5. The extent of such an effect on total water yields can be expected to vary greatly under different conditions of climate, forest cover, and soil. Soils that are hydrologically shallow would be expected to permit relatively few effects of forest cover and its removal upon water yields. The reason is simply this: if soils are shallow or if water penetration into the soil is shallow (say, less than two feet) essentially all of the water that is stored in the soil is likely to be consumed by evaporation and by transpiration from shallow-rooted plants, whether or not forest cover is present. On the other hand, the presence of forests on areas of deep soil and ample water ordinarily means the development of deep and ample root systems, which tend to draw out more water through transpiration than would be consumed by evaporation alone or by transpiration through shallow-rooted plants.

6. As an extension of this thought, thinning or opening of the forest would normally result in a lower total consumption of water and an increase in water yields. At the same time, such operations are likely to result in some site degeneration. This may be caused by mechanical abrasion by logging equipment or by the oxidation of organic litter and humus, with the resulting exposure of mineral soil. Wherever such changes result in any soil erosion at all, this

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FIRES IN ALASKA

By **JESSE M. HONEYWELL**

*Area Administrator
Bureau of Land Management
Juneau, Alaska*

SINCE the birth of the 49th state, the spotlight of national and international interest has turned toward Alaska and its many problems. It is a pleasure to appear here today as an Alaskan and to present to you some of our findings regarding a few of these problems and how we believe they may be corrected...

Probably the three major factors contributing to many of our problems in Alaska are its size, remoteness, and lack of ground transportation.

Alaska land area totals approximately 365.5 million acres, or one-fifth that of the other 49 states combined, but has a road system of only 5,000 miles. It is significant that 99 per cent of the land area of Alaska is federally owned. Even after state selection of approximately 104 million acres, the federal government will still have under its jurisdiction about 260 million acres, or 71 per cent. Fire and resource protection will still be a big job in the years ahead. The total area of lands under the jurisdiction of the BLM requiring protection from fire is 225 million acres.

The question has often been asked: "What is there to protect?" Eliminating 20.7 million acres of valuable national forest lands which lie primarily in the fog belt along the coast, we find a vast area commonly referred to as the Alaska interior. It embraces the region lying between the Brooks Range on the north and the Coastal Range on the south. Of this area, about 125 million acres bear sufficient tree growth to justify designa-

tion as forest land. This great, predominantly coniferous forest has its counterpart in northern Canada, the Scandinavian countries, and northern Russia. It represents a tremendous potential source of wood and cellulose. The remaining 100 million acres is comprised, for the most part, of rolling hills of grassland and the flat, excessively wet lowlands variously referred to as "muskeg," "tundra," or "bog."

Most of this region lies north of the Alaska Range and includes the great valley of the Kuskokwim, Tanana, and Yukon Rivers and their tributaries. There are also the Kobuk and Noatak drainages to the north which empty into the Arctic Ocean. The majority of these rivers meander through numerous lowland channels and are heavily laden with silt from glaciers and bank cuttings. In general, the country is rolling upland with broad lowland and scattered mountain masses and peaks.

The interior has a semiarid climate, with great extremes in temperature. Two divisions are recognized. One south of the Alaska Range averages from 15 to 20 inches of precipitation, and temperature extremes are from minus 36 to a high of 92. The area north of the range having a concentration of lightning and a preponderance of timber stands has annual precipitation ranging from 10 inches to 15 inches. Temperatures range from the minus 70's to plus 100 degrees.

For all practical purposes, there are only two seasons—winter and summer.

In the summer, which begins in early May shortly after the ice breakup, the great land mass warms up very rapidly and temperatures run about 80 degrees, with extremes of 100. Due to the long daylight hours during summer—ranging from 18 to 24 hours, the length of the growing season is much greater than during a comparable number of days elsewhere in the United States. To illustrate, the city of Fairbanks on the Fourth of July holds a traditional baseball game starting at midnight. Wild flowers grow in profusion, and garden vegetables reach unbelievable sizes. Heads of cabbage, for instance, have reached weights of 60 pounds, measuring 36 inches across. You can well understand that such a land of continual sunshine and high temperatures means nothing but trouble for the weary firefighter.

The forests, as seen from the air, appear as a complex mosaic of vegetative types. In general, the forest occupies the valleys, often appearing as belts which follow the meanderings of the streams and the lower sloughs and benchlands. Timberline occurs between 2,000 and 3,000 feet. The complexity of the vegetative patterns is mainly the result of past fires. Sharp boundaries between types can be recognized as the edge of old burns. Areas now treeless, on close examination, prove to have formerly supported full forest stands which were destroyed by repeated burning.

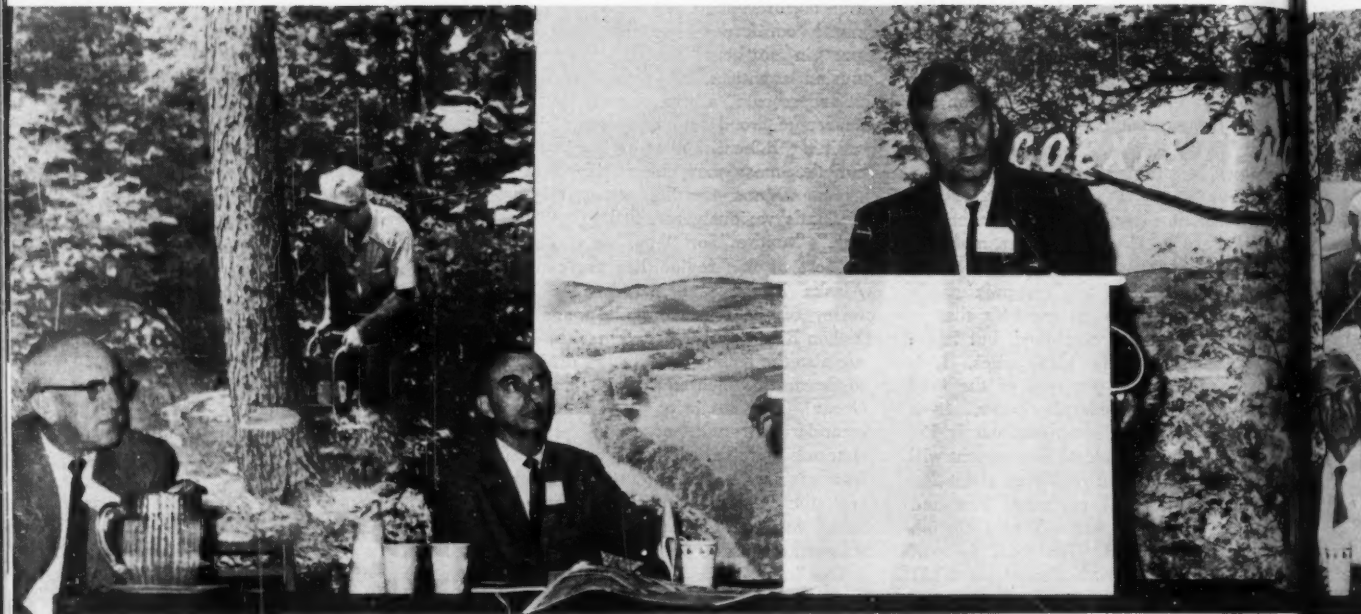
The view sometimes expressed that the

(Turn to page 54)

The exhibit hall at the Bedford Springs Hotel was a feature attraction of the annual meeting. Pennsylvania resources departments, Forest Service, and BLM contributed fine displays



MEETING THE



Mr. Charles A. Connaughton (left) presided over panel session which included Mr. Arthur W. Greeley, moderator, Dr. Maurice K. Goddard, Dr. Samuel T. Dana, and Mr. Vertrees Young

RESPONSIBILITIES OF PUBLIC AGENCIES

By DR. SAMUEL T. DANA

Dean Emeritus

School of Natural Resources

University of Michigan

UNDER the concept of multiple use of forest lands which the AFA advocates, it is necessary to consider the volume of the demand for forest products in the years ahead, as well as the other claims on the use of our forest lands for recreation, watershed protection, and scenic values.

The U. S. Forest Service in its 1952 Timber Resource Review not only made the best and most comprehensive inventory yet made of our forest resources, but also estimated what the demand for forest products might be in the years 1975 and 2000. The estimate for 1975 agreed rather closely with that made by Stanford Research Institute. The estimate for the year 2000 was projected on three levels, upper, medium, and lower. Under the medium estimate industrial wood requirements would increase by 114 per cent by the year 2000, while fuel wood requirements would decline by 32

per cent—giving a net increase in demand of 82 per cent. Under the lower estimate, which assumes that wood products will to some degree be progressively replaced in building due to a disproportionate increase in costs and prices of forest products, a net increase of nearly 50 per cent is still envisioned. At the upper level, the net increase is estimated at 114 per cent.

When we realize that at the time of the survey timber growth and cut were approximately in balance, the conclusion seems inescapable that even at the lower level estimate, we will have to grow a lot more wood, on possibly fewer acres, to meet the estimated demand of the year 2000 and the years intervening.

It is in the light of this consideration that this paper has been prepared.

Government has a responsibility for assuring the wise use of natural resources because they are the foundation

of the nation's material and cultural well-being. The first duty of any state (organized community) is to assure its own prosperous perpetuity.

The public agencies by which policies are determined are Congress and the state legislatures. Executive agencies such as the federal Forest Service and the Pennsylvania Department of Forests and Waters carry out these policies; they do not make them.

Forests are a valuable resource because (1) they produce wood and other essential raw materials; (2) they exert a beneficial influence on the environment—water, soil, climate, scenery; and (3) provide opportunities for the physical, mental, moral, and spiritual recreation of human beings.

Public agencies can, and should, help to maintain and increase these values through (1) ownership and management; (2) controls of various sorts, and

IMPACTS



(3) co-operation and related activities. Their role is to achieve results that private sources either cannot or will not achieve on their own initiative.

Public ownership is the most drastic form of public intervention because it provides complete control over management, but it does not insure wise management. National forests and state forests in Pennsylvania and elsewhere have not been an asset merely because they were publicly owned but because they have been wisely managed.

No large increase in public ownership seems necessary, partly because this aspect of public ownership has been so strongly stressed in the past. From the standpoint of timber production, progress toward intensive timber management is being made by the larger owners, and public ownership does not seem to be a practical answer to the urgent problem of obtaining better management of the small, continuously neglected woodlands.

Areas of outstanding value for watershed protection are already largely in public ownership, notably in the national forests. The chief need for expanded public ownership is in the provision of

opportunities for outdoor recreation. While private owners will doubtless go much further than they have so far done in this direction, it is doubtful whether they can adequately meet the zooming demand. At the federal level, public ownership of national parks and national forests has probably gone far toward discharging the federal responsibility, but at the state level a considerable expansion of public ownership for this purpose seems to be in order.

In a word, public responsibility in the field of ownership calls, in general, for the retention of current holdings, with their consolidation by the substantial acquisition of interior private holdings and the expansion of public ownership for recreational purposes.

Emphasis needs to be placed on more intensive management of publicly owned forest lands for timber, water, and recreation.

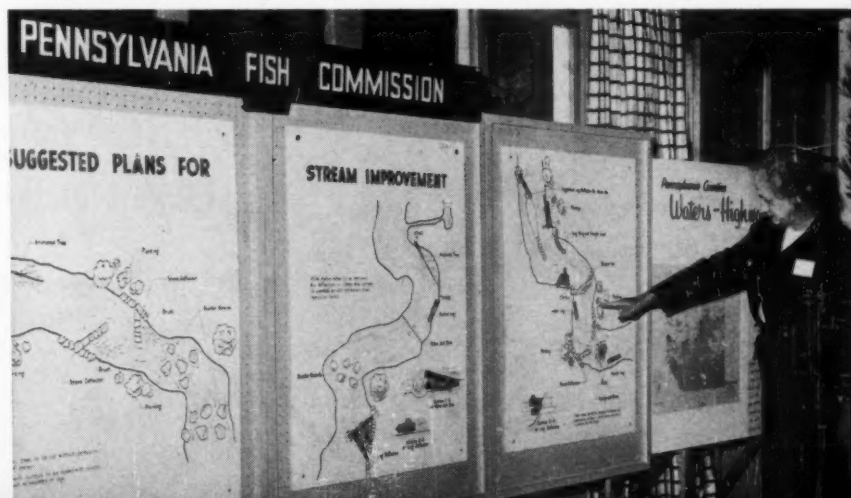
Public control over timber cutting by private owners has long been a controversial subject. My own reaction is in favor of such control by the states under a flexible program administered by local agencies. One of the main advantages of such a program is its educational impact by making owners think through their own forest problems. Where the public interest is deeply involved in the fields of watershed protection and recreation, it can best be safeguarded by ownership rather than control.

Public agencies have a wide responsibility in the realm of co-operation. This

can ordinarily be discharged most effectively through the states, which handle actual contacts with private owners. Experience has demonstrated that two methods work—educational activities through the state extension services and protection and service activities through the state forest services. Liberal federal co-operation is justified because of the psychological as well as the financial stimulus which it provides for state activities, and also because of the stability and maintenance of high standards which it helps to assure. Another major, although indirect, form of federal co-operation is the conduction of research.

In summary, the responsibilities of public agencies include (1) expansion of public ownership for the provision of recreational opportunities; (2) consolidation of existing public holdings by acquisitions of interior private holdings; (3) more intensive management of public properties for timber production, watershed protection, and recreational activity; (4) state control of timber cutting on private forest lands under a flexible program, locally administered, largely as an educational measure; (5) state co-operation, supplemented by federal fortification, with private owners in the improved management of forest lands; and (6) federal leadership in research. These responsibilities exist because the public activities which they involve are essential to enable forest lands to make their full potential contribution to the permanent well-being of the nation.

Stream improvement exhibit displayed by the Pennsylvania Fish Commission is studied by Mrs. George O. White, wife of the State Forester of Missouri



LANDOWNERS' RESPONSIBILITIES

By VERTREES YOUNG

Director

Crown-Zellerbach Corporation

SIXTY years ago, there would have been little response to the idea of responsibility attached to land ownership. Today responsibility is recognized more widely but far from universally. We all know the story of the farmer who rejected suggestions as to improved methods of farming from a young agronomist with the comment, "Boy, I wore out two farms before you were even born." Yet in eastern Pennsylvania, and doubtless in many other regions where farmers love the soil, the farms that have been under cultivation through generations of owners are in better shape than when the land was first broken by the plow.

The sad fact is that even in a Christian country wherein the parable of the talents is known, certainly, to considerably more than half the population, a lot of people are still much more apt to be concerned about their *rights* than their *responsibilities*. Those concerned with government know this only too well. They know, too, that if rights are not exercised and guarded, if there is no individual feeling of responsibility connected with possession, those rights can be lost in the course of time. One of the problems of the day is to make America alert to its responsibilities as the richest and most powerful nation and therefore as the nation on which world leadership devolves. . . .

If responsibility is measured by acres, the federal, state and local governments have 27 per cent of the nation's total responsibility. If it is measured by volume of live sawtimber, they have 47 per cent. Most of this tremendous volume lies in the West and in coastal Alaska. It constitutes a timber reserve, but by admission of the Timber Resource Review itself, these western old-growth

stands are not contributing much to the nation's timber *growth*. Western species in all ownerships represent 46 per cent of the live sawtimber volume but only 16 per cent of the growth; they account for 49 per cent of the nation's estimated timber mortality in growing stock, of which less than one fourth is salvaged.

Here we come face to face with the problem of policy and practice as to the manner of holding a timber reserve, and with the further problem of inaccessibility which is particularly acute in the West and in coastal Alaska. Are we building roads rapidly enough into these presently inaccessible areas? If not, does the responsibility rest with the Forest Service or Congress? I suspect, with the latter. If roads are built, who may use them? Where private holdings are intermingled with federal holdings, has it been possible to work out co-operative construction and use? Will not access roads permit acceleration of the Forest Service's present practice of trying to salvage dead and dying trees and permit certain selective cutting to improve growth and decrease mortality?

In considering these problems, the fact must be borne in mind that we are talking about *commercial* forest land, not the 125 million acres in the West that are classed as non-commercial because of species, sparseness of stocking, or inclusion in national parks and reserves for watershed protection, grazing and recreation.

We next come to the consideration of forest industry holdings, which constitute 13 per cent of the commercial forest land. Volume of live sawtimber and total growing stock is not shown separately in the review for forest industries but is combined with "other" (private, non-farm) ownerships, which account for

26 per cent of the commercial forest acreage. . .

If responsibility is measured solely by acreage or volume owned, the forest industries have the least responsibility of the major landowner classifications. The primary forest industries will be the first ones called upon to cut (or buy) and manufacture the timber required in years to come. Their own future is tied up with the overall problem of assuring an adequate future wood supply. In this both their stockholders and their thousands upon thousands of employees have a vital stake as well. So the responsibility of the forest industries is far broader than timber ownership alone would indicate. Most of their supplies of logs and pulpwood come from other public and private ownerships, and with only 13 per cent of the forest land in their possession, their dependence as a group on outside wood will increase over the years, rather than diminish.

The Forest Service agrees that for the most part, industry forest lands are better managed and more adequately stocked than other private holdings. Probably more money is spent on management per acre of ownership than is available to the Forest Service for similar work on federal lands. As to stocking, the figures on growing stock in the 1952 survey do not begin to reflect the improvement in volume of stocking brought about by planting, even up to that time. For example, planted pine trees in the South do not reach a size to be recorded as measurable volume until about 12 years of age. Then they come into the picture at 10 to 14 cords to the acre. None of the trees planted in the 11 years preceding the survey would show up as

(Turn to page 61)

The exceptionally interesting speeches at the 84th Annual Meeting assured a packed house for all sessions



CIVILIAN RESPONSIBILITIES

By MAURICE K. GODDARD

*Secretary
Department of Forests and Waters
Commonwealth of Pennsylvania*

I MUST admit that when you assigned me the task of talking about the citizen's role in meeting today's resource challenge, I thought you picked the wrong candidate.

I have had experience working for timber owners. I have been a practicing conservationist and educator for most of my working life. And I have been privileged to administer a public resource agency for the last few years—never have I been an honest-to-goodness live specimen of a civilian. . . .

It was only upon sober reflection that I realized that in the public administration of a resource agency one devotes most of his energies not to day-to-day operational problems but to that delicate process known to the high priests of political science as "reconciling the pressures of many interests."

Please believe me when I say that in such a position one soon learns to appreciate the power and the impact of many ordinary citizens upon the formulation of policy.

That is why an editorial published last week by one of our outstanding conservation organizations here in Pennsylvania struck me as a trifle ironic. The piece took the "big interests" to task for spending lots of money to make their voices heard in the halls of Congress and our legislatures.

"When the financial resources of the special interests," the editorial reads, "are used to drown out the lower decibels of the ordinary citizen, a grave danger to the democratic process exists."

It goes on:

"Perhaps the cause of conservation has suffered as much as any other from the abuse of democratic privilege by special interests. Consider the stockmen and lumber and mining interests who are

so viciously fighting the Wilderness Preservation Bill. Consider the outdoor advertising companies which are doing everything in their power to prevent control of the billboards on our new highways. Consider the manufacturers' associations which are violently opposing federal water pollution control—and then consider the people of America. The people of America want wilderness preserved, they want highways without billboards, they want clean water. Their wishes are evident to congressmen and senators who hold public hearings on these matters and who know the public temper. But these people, the people of America, are busy on their day-to-day jobs. There is a living to be made, children to be tended, dishes and clothes to be washed, a house and grounds to be maintained. Most of our citizens just don't have the time to set forth their wishes in headline type. But the special interests do have the time—and the money. They pull out the stops and use every method. . . .

"Let our legislators keep in mind," the editorial concludes, "that it is not money that talks, it is not noise that talks, it is the voice of the majority of citizens, no matter how small, that commands. . . ."

I think this a pretty representative sample of the thinking of many groups in conservation. The battle, as they see it, is against the "big interests"—a battle that, because most conservation groups have little money and still less political influence, they stand little chance of winning.

I question this. Oh, I can vouch as well as anybody for the financial privation from which most conservation organizations suffer. I have helped bail several out of the poor house.

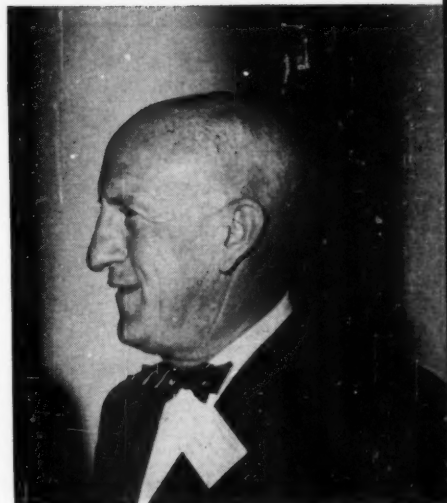
But as for political influence, I must disagree.

Someone, a few years ago, found out that the legislators receive more mail from their constituents about conservation than any other subject.

A distinguished senator once told me that the surest way to get a bill passed in Washington was to get the ladies' garden clubs behind it.

It has been estimated that well over 15 million people in the United States are dues-paying members of conservation organizations.

Now, as the editorial which I read states, the voices of these persons individually are in the lower decibels, but their combined volume is formidable and



Charles A. Connaughton, regional forester, United States Forest Service, presided at "Meeting the Impacts" panel

our political representatives realize that they ignore this well-organized segment of the public at their own peril. Conservation has become a full-fledged politically influential movement.

A superlative example of the influence these organizations are able to exert is that exercised recently by The American Forestry Association in getting budget cuts restored for fire-fighting in Alaska.

The Izaak Walton League has played a vital part in the continuing effort to clean up our polluted waterways. Sportsmen's groups of every description have been instrumental in fostering wildlife management. The National Audubon Society has argued for the enactment of some of the most important conservation laws.

We can point to numerous examples, throughout the past half-decade, of resource statutes placed on the books through the vigorous urging of organized conservationists—the creation of our national and state forests and parks, for example, or the establishment of water pollution laws, sound fish and wildlife management, and such agencies as the Soil Conservation Service.

These achievements are praiseworthy. I do not think I am too far off-base when I say that largely through efforts like these on the part of many different kinds of people—most of them, incidentally, non-specialists in the resource field—we have some of the best conservation laws in the world.

As we all know, however, today this is not enough. The resource crisis posed by a rapidly expanding industrial-urban society with an enormous appetite for raw materials and space can not be resolved by an atomized collection of or-

(Turn to page 59)



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ROVING *Cameras*

3



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Photographs by
Vincent Finnigan



4

AT BEDFORD



1. Leading AFA members in a community sing at Shawnee State Park were Bill Lynn (left) of West Va. Pulp and Paper Co. and G. P. Sykes, North Carolina



2. The gracious "first lady of AFA" Mrs. Don P. Johnston, (left) enjoys a chat with Forest Service Chief R. E. McArdle. In back are former AFA president and Mrs. William S. Rosecrans



3. These forestry leaders having a serious discussion in a quiet corner at Bedford are William Laybourne (right) executive director of Ohio Forestry Assn. and Fred E. Hornaday exec. vice president of The American Forestry Assn.

4. The long registration lines at the annual meeting were expertly managed by AFA's business manager Mrs. Jane Evans (standing) and another member of the AFA staff, Mrs. Dorothy Dixon

5. Mr. P. H. Glatfelter, chairman of the board, P. H. Glatfelter Paper Co. examines gavels, each made of a dif-

ferent species of wood, one of the many exhibits on display at the hotel. Mr. Glatfelter also serves as one of the three forest commissioners in Pennsylvania

6. One of the magnificent old homes of Bedford visited by AFA members was the home of the Paul I. Detwilers. Here Mrs. Detwiler, left, points out old hand-hewn timber used in the fireplace to Mrs. Charles Flory of South Carolina

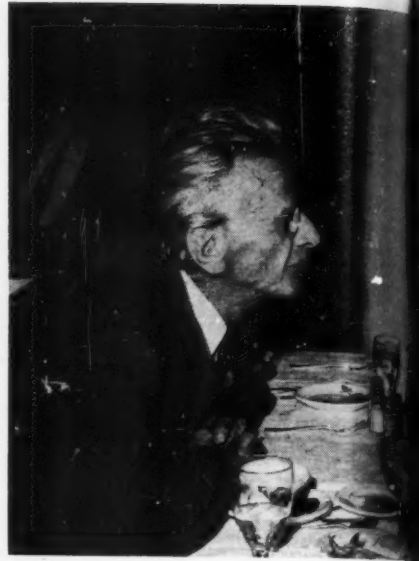
7. Numerous recreational facilities were available at the Bedford Springs Hotel including, shuffleboard courts, 18-hole golf course, riding stable, swimming pool

8. Miss Annie Gilchrist (left) Bedford town historian, shows one of her prize possessions, an Indian Eve trunk made in 1777, to Mrs. W. D. Pine of Eureka, California. Miss Gilchrist displayed her valuable antiques for the AFA members

9. Mr. Karl T. Frederick, AFA board member, (left) and AFA Forester Kenneth B. Pomeroy check final arrangements for the annual banquet at which Mr. Frederick presided as toastmaster.



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Cameraman at Bedford Cont.



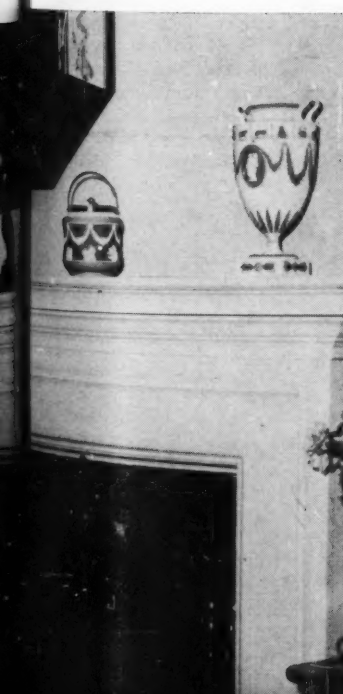
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15



10. Miss Edith Riddle of Altoona, Pa., pauses to admire candlestick in home of Mr. and Mrs. Edmund S. Shuck, which was built in 1848. The Italian fireplace with a hand carved hunting scene inset in bronze dated 1732 is magnificent

11. Mr. P. T. Coolidge of Bangor, Maine (left) engages in lively luncheon discussion with Dr. Wilson Compton, an AFA board member of Seneca, Virginia

12. Miss Patricia Moss, editor of the *Prudential Log*, and Clint Davis, chief, I & E, Forest Service, enjoyed hearing each others Trail Rider experiences. Miss Moss showed colored slides of her Trail Ride last summer, and Mr. Davis showed a movie of his Wind River Trail Ride

13. Mr. C. L. Hassinger, second from right, has been a member of the asso-

ciation for 53 years. He is seated with, from left, Mr. Elwood Maunder, Mr. A. B. Recknagel, and Miss B. Pagenstecher

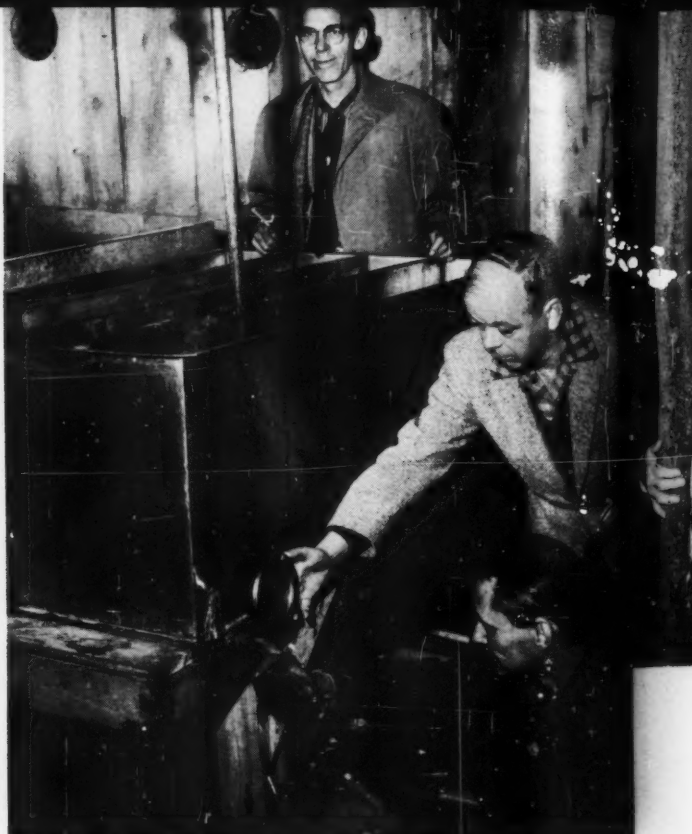
14. Mrs. Katharine Jackson Lee, an AFA board member, left, and Mrs. George W. Merck, wife of a board member, look at map showing post-conference tours available to AFA members

15. "How to operate a fire pump" was the topic of this discussion as each of these ladies had just won an Indian Fire Pump. These ladies are, from left, Mrs. J. Clyde Crawford and Mrs. Paul Lewis

16. Everyone admired the outstanding collection of antique Wedgwood at the home of Mr. and Mrs. P. N. Risser, Sr. Here Mrs. Risser shows AFA staff member Dorothy Dixon a prize candlestick.



J. B. Zimmerman, right, points out forestry's new "little inch" pipe line, a plastic hose that conducts tree sap to sugar house



Alfred C. Harris, right, chemist for Zimmerman's sugar house operates valve for Lloyd Partain, left, Dr. J. Clyde Underwood

FORESTRY'S NEW

AUTOMATION has even reached the maple syrup industry, AFA members discovered when they toured the J. B. Zimmerman tree farm at Stoystown, Pennsylvania. "With pipe lines feeding the sap water into the sugar house vats for processing, we have almost reached the point where I can sit back in a rocking chair while the syrup takes care of itself," Chemist Alfred C. Harris told the surprised visitors.

These unique innovations in maple syrup production developed at the Zimmerman tree farm may have a profound effect on the industry throughout the country. Currently there are only 16,000 to 20,000 producers in the country, and only five per cent of the sugar maple trees have been tapped. One reason for this industrial lag is that traditional production demands hard, heavy work. This obstacle Mr. Zimmerman has eliminated with his pipe line system of transporting the sap water.

The pipe lines that had been inserted in the tree were merely for demonstra-

tion purposes, Mr. Zimmerman explained to the group, as the sap water can only be collected during a six-week period in the early spring when the sap is running in the trees. The plastic pipe lines from each tree, resembling hoses, operate as a feeder system into a main trunk line, he continued, which is piped directly into the sugar house for final processing. When the sap-collecting project is in full operation the tree farm is a maze of light green pipe lines.

This new process is more sanitary and less expensive than the traditional bucket method for gathering the sap. Under the new method it is necessary to tap only once each year, twice by the other system; since the line is inserted directly into the tree, the sap is not exposed to foreign matter in the air, as it is when standing in buckets. The cost of the line is only a few cents a foot, and it is made of a plastic material which will not break when the thermometer drops below freezing. The pressure produced by each tree, about 18 pounds, is more than

enough to push the sap through the lines.

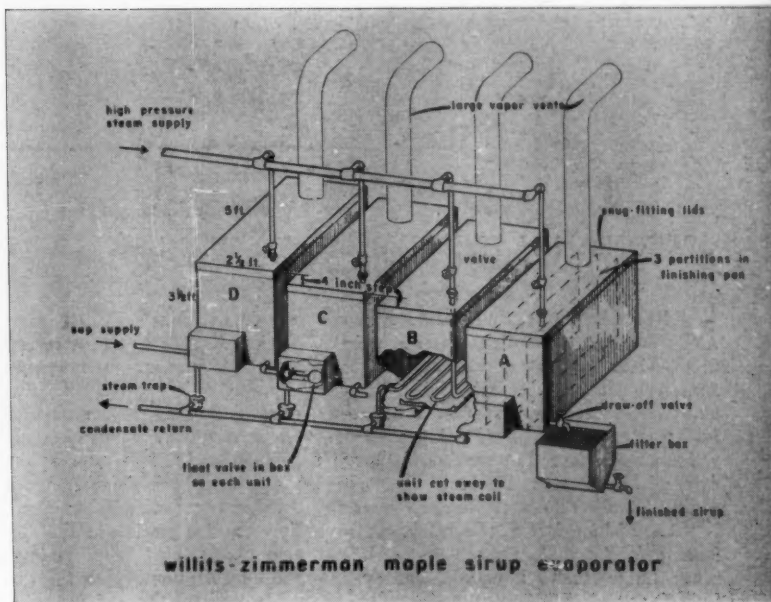
However, there is still one obstacle in this operation which the Zimmermans have yet to overcome—deer. The herds are numerous in that part of Pennsylvania, and when they run through the forest at night they often break the pipe lines. This really is not too serious a problem, as it only involves repairing some individual feeder lines and the main system is not affected.

Once the sap has been piped into the sugar house it is boiled in a series of vats. As sap water only contains 2 per cent sugar, and the law regulating the marketing of syrup requires 65 per cent sugar, the excess water is boiled off to increase the percentage. The vats, heated by a steam boiler, will boil down 500 gallons of sap water an hour. The syrup is then filtered through trays to remove foreign particles known as sugar sand. Then, still hot, the syrup is poured into sterilized cans, and is ready for sale.

Mr. Zimmerman told the group he
(Turn to page 62)



Harvey Braucher examines strange fungus which has attacked many sugar maple trees



"LITTLE INCH"

PIPE LINE

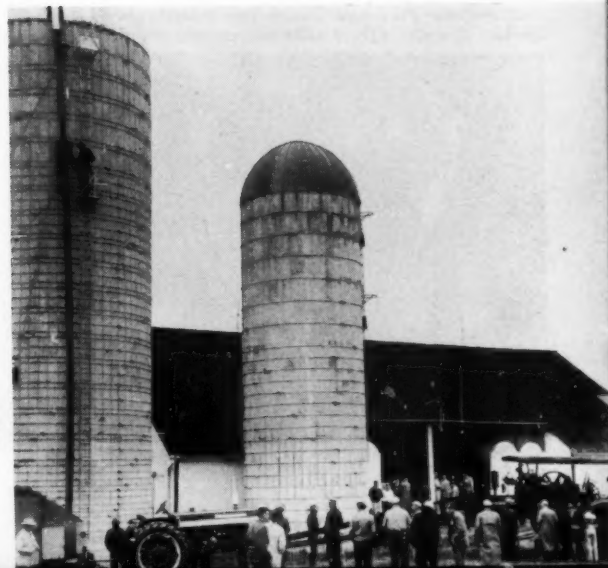
By BETTY KINDLEBERGER

The field trip included a stop at strip mined area which had been planted with white pine seedlings



A. C. Negley of New Enterprise operated old stream tractor on the Clouse farm

When tractor whistle blew members scurried to Clouse barn where lunch was served



for Distinguished Service

OREGONIAN IS FIRST WOMAN TO WIN DSA

MRS. Marion T. Weatherford, an Oregon conservationist, became the first woman in history to receive The American Forestry Association's Distinguished Service Award. Mrs. Weatherford was among the five leading conservationists so honored at the Association's Annual Meeting in Bedford, Pennsylvania. Others who were honored were: Newton Bishop Drury, Berkeley, California; William H. Carr, Tucson, Arizona; Judge Harley Langdale, Valdosta, Georgia; and William Douglas Pine, Eureka, California.

AFA has presented Distinguished Service Awards each year since 1949 to individuals whose contributions to conservation are considered outstanding and beyond the call of normal duty. Mr. Christopher M. Granger, chairman of the Awards Committee, and Mr. Fred E. Hornaday, executive vice president of AFA, presented the awards.

Mrs. Marion T. Weatherford — Field of General Service: "... As former chairman of the Department of Natural Resources for the General Federation of Women's Clubs, she exhorted members to action through her cogently written conservation bulletins and widely-

circulated radio script, 'A Home in the Country.' To augment these efforts, she travelled thousands of miles, at her own expense, to carry the conservation message to thousands of women in person. As a result of these efforts, the year 1955-56 saw 29 federation affiliates reaching a peak tree-planting production of 3,401,936 trees ... When The American Forestry Association in 1956 launched a campaign to curb wildfires in the South, she took it upon herself to arouse southern women to the seriousness of the situation and then led them in person to the first Southern Forest Fire Prevention Conference at New Orleans. ..."

William H. Carr — Field of Public Information: "In his specialized field this individual has few if any peers. He is a technician, a creator, an educator, and, yes, a showman. Millions of Americans who have profited by his art know that his Bear Mountain Museum in New York, Arizona-Sonora Desert Museum in Arizona, and Ghost Ranch Museum in New Mexico are his conservation monuments. But, in the opinion of many, this individual reached a new zenith even for him when the Charles Lathrop Pack Forestry Foundation last year at Tuc-

son's Arizona-Sonora Desert Museum introduced to the members of our association his saga of water in America, now known across the entire nation as 'Water Street, U.S.A.' By showing Americans "actual objects in place," Mr. Carr has won recognition as the "man who made museums come alive."

Judge Harley Langdale — Field of Business and Industry: "This business leader and jurist ... has won the right to be called a professional forester ... During the depths of the depression, when many landowners were letting their woodlands go for taxes, this man's faith in the future of the forests remained unshaken. He held on under trying circumstances. Today he is practicing intensive forestry on more than 200,000 acres of excellent pine forests. These enlightened operations in land management, carried on over a period of years, served as a beacon to less progressive landowners and demonstrated that sound forestry has great economic potential and other multiple use benefits ... He next revitalized the naval stores industry by organizing a Naval Stores Cooperative and was an important cog in improving that industry's status both in Georgia and Florida."

Californians Pine and Drury are congratulated by DeWitt Nelson (l), California resources director



Philip Livingston, publisher (l), received Pennsylvania Forestry Assn. award from Dr. Maurice Goddard





1959 Award Winners (l to r) William H. Carr, Arizona; Newton Bishop Drury and William Douglas Pine, both of California; Mrs. Marion T. Weatherford, Oregon; and Judge Harley Langdale, Georgia

Newton Bishop Drury—Field of Public Service: This gentleman is considered one of those foresighted individuals "who have dedicated their lives to the preservation and protection of superlative examples of the country's virgin forests, deserts, flora, fauna, and scenic grandeur." He is "in the forefront of those who have helped to create and protect state and national parks. From 1919 to 1940 he was the dominant

spirit in saving the redwoods and in establishing the California State Park System. From 1940 to 1951 he directed the destinies of the National Park Service, and no one has ever surpassed him in his selfless spirit of dedication to this task and in his insistence on the highest possible standards. The years 1951 to 1959 found him back in California again where the state backed him in his Five Year Plan to improve park and beach

facilities he had helped to create. . . ."

William Douglas Pine—Field of Education: "The fact that leading sheep and cattle ranchers in Humboldt County, California, today are leading the way in applying advanced forestry practices, and indeed are insisting that foresters and lumbermen toe the mark in their own methods, is largely due to the missionary efforts of this county farm advisor . . . Convinced that farm and ranch prospects in the area were bleak unless bolstered by a tree economy, this individual in the early 1930's and 1940's convinced stockmen that it was wrong to convert all forest land to pasture and that such conversion is possible, and successful, only on those sites where the soil, slope and aspect are congenial . . . The ranchers followed his advice, profited by it, and today swear by this county farm advisor . . . All this was accomplished by a man whose task is supposed to be basically agriculture."

These annual selections are made by AFA's Awards Committee and approved by the board of directors. The committee this year consisted of Mr. Christopher M. Granger, chairman, Mr. Horace M. Albright, Dr. Samuel T. Dana, Colonel J. E. McCaffrey, Mr. Lloyd E. Partain, and Mr. Ernest F. Swift.

Awards Chairman Christopher M. Granger congratulates Mr. Drury, a former director of National Park Service



EACH town should have a park, or rather a primitive forest, of five hundred or a thousand acres, where a stick should never be cut for fuel, a common possession forever . . . let us keep the New World new."

So wrote Henry David Thoreau in his *Journal* in 1859. People today say, "If only they had listened—what it would have meant to us now!"

But it's not that simple. Setting aside land is the easiest part. Keeping it intact is the real test. Instead of criticizing our ancestors, let's check ourselves. Are we meeting the test of preserving what we have?

Our swelling metropolises have temporarily included, in the sprawl of their growth, many green islands of woodlands, farmland, even parkland. Then land values and tax assessments soar until owners must either "develop" or sell. Next it appears that any surviving parklands are the "only" possibilities left for new schools, stadia, freeways, parking lots, or land-fill dumps. And of course such parkland lies athwart the cheapest routes for all our service lines—of water, power, gas, etc.

It's easy to say "Too bad!" where no open space was set aside. It's harder to say "It's worth the cost!" if we have it and are confronted with

the price of its preservation.

Antioch College and the citizens of Yellow Springs, Ohio, are now facing their test. Here splendid tracts of forest, field, and stream were set aside thirty years and more ago through the efforts of several men of vision. Today Ohio's booming economy and Dayton's metropolitan growth are pressing upon Yellow Springs and its parklands.

The situation was dramatized last year when it appeared that Glen Helen, the outdoor education property of Antioch College, would be disrupted by a major interstate highway and by a sewer trunk line and disposal plant. The highway plan was defeated by overwhelming protests from throughout Ohio and beyond. The sewer plan hinges upon decisions in Yellow Springs, and at this writing is in a state of crisis.

The history of these parklands dates back to 1804, when one Lewis Davis built a log tavern by the voluminous, mineral-charged Yellow Spring, right on the stage road linking Cincinnati to Springfield. From this beginning eventually grew a popular vacation resort, Neff Park, preserving the handsome wooded ravine or "glen" of the Yellow Springs Creek. West of the glen there developed the village of Yellow Springs with Antioch College.

In the 1920's, under former President Arthur E. Morgan, Antioch College began its climb to national distinction. Morgan, the innovator of the "study plus work" philosophy, believed also in the educational value of the land and its life. The former Neff Park was long since out of business and looking for buyers. Morgan begged, borrowed, and forestalled other buyers until an Antioch alumnus, Hugh Taylor Birch, came to his aid. Let Birch speak for himself through his deed of this land, and of much additional acreage, to Antioch College:

"I, Hugh Taylor Birch . . . having in mind the scene of my youth where many cherished hours were spent . . . tramping through the wooded glen . . . in enjoyment of its natural beauty . . . and being desirous of establishing a memorial to my loving daughter, Helen Birch Bartlett, through the preservation of these woods, cliffs, springs, streams . . . do hereby give . . . the following real estate . . . to have and to hold the same to the only proper use of said grantee, Antioch College, and its successors forever. . . ."

When Birch gave Glen Helen to Antioch he was eighty years old. He labored vigorously in the glen, building trails and planting trees, almost to the day of his death at ninety.

No cafeteria line for these sixth-graders whose appetites have been whetted by a day-long class out-of-doors. These youngsters were first to use the outdoor recreation center sponsored by Antioch College



four. One of his jobs was preventing the village of Yellow Springs from putting its initial sewer system into the glen. He gave the village land elsewhere for a disposal plant, stipulating as a condition that pollution should never enter the streams. Glen Helen's fight for survival had already begun.

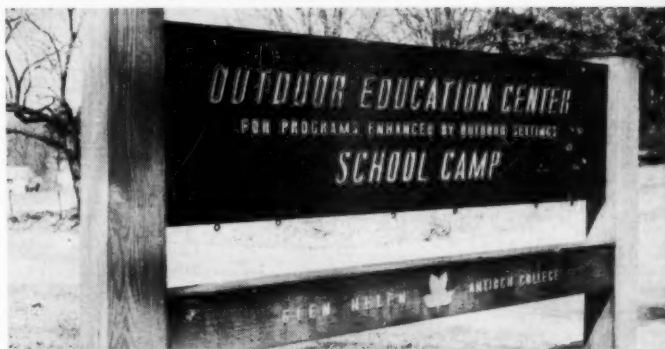
Antioch College has ever since been carrying forward Arthur Morgan's vision of land as an educational facility. For the land is mute, and requires interpretation if its fullest meanings are to be experienced. A trailside museum was built at the glen entrance, and all comers were welcomed to explore pathways through the undisturbed wilderness portion of the glen. Qualified students, not only from Antioch but also from the Yellow Springs High School, now are hired to be guides for visiting groups that wish this service. That portion of Glen Helen that had been good cropland is now farmed in co-operation with the Soil Conservation Service as a demonstration of conservation methods, and Antioch pays taxes on that acreage. Certain rougher pieces are planted to native and hybrid nut trees in co-operation with the Ohio Nut Growers Association and the Federal Bureau of Plant Industry. Other old cleared areas, too steep or worn, are

Tree planting demonstration for students at school forest at Glen Helen



Group of youngsters enjoy hike through the forest, right in path of proposed highway

Entrance to Antioch's year-round conservation camp serving Ohio's school children



GLEN HELEN'S FIGHT FOR SURVIVAL

By KENNETH W. HUNT

Fight for Survival Cont.

in process of planned reversion to nature. What is learned here will be of value to those communities that wish to re-create parkland where no forest remains.

Every effort has been made to share fully the educational opportunities in Glen Helen with the Yellow Springs community. The use of one hundred acres of glen land was leased without charge to the local high school as the Yellow Springs School Forest. Part of this was replanted by the Ohio Division of Forestry and included measured test plots of plantation management. More has been planted by the high school students who are now doing a thriving Christmas tree business. The annual community Christmas Tree Festival which the students conduct has been netting over \$600.00 profit for the high school.

The services of Glen Helen do not stop with Yellow Springs. Through the energetic work of Antioch's former president Samuel B. Gould, \$170,000 was contributed for an Outdoor Education Center by persons who wished Glen Helen's services to be more widely shared. Public school classes from a fifty-mile radius come here, one after the other, throughout the school year for a week of outdoor living and learning. On weekends and through the summer the center is used for such conferences and training programs as are enhanced by an out-door setting.

This pioneering in the use of land for education was of course undertaken for its own sake, but it was also realized by the glen staff that some day the test of survival would come, and that service to the public would constitute the best defense.

Meanwhile, adjoining Glen Helen on the east, another fine park developed when a wealthy gentleman farmer, John Bryan, deeded his fields and forests to the state of Ohio. (Bryan was said to have driven spikes into his finest trees so that no saw mill would dare to buy them.) Today John Bryan State Park has within or adjoining its 750 acres four youth camps, outstanding areas of naturalistic landscaping, and rare vegetation in Clifton Gorge—though some of the gorge is still outside its boundary.

Glen Helen and John Bryan Park together constitute 1750 acres of the most active outdoor education facili-

ties in Ohio. They constitute a large green island in a region of high land value, still predominantly agricultural but rapidly becoming residential.

Now the time of testing has arrived. The people of this region do not need to say, "If only land had been kept!" They have it. But they do need to ask, "Are we going to hold it?"

First the problem of the Yellow Springs sewer system was raised again. The village had long since outgrown its original system, and overflow was frequently entering the streams through Glen Helen. Correction was now mandatory under the Ohio pollution control laws. The village renewed its plan to install a trunk line and disposal plant in the glen ravine, assuring the college that once installed no further enlargement would ever be needed, and that all traces of the installation would quickly disappear. The college was inclined this time to assent, under the impression that any other plan would impose a heavier financial burden on the village.

These assurances were called into question by the newly-constituted Glen Helen Advisory Board. This board had been created to supply the growing Glen Helen program with representative state-wide advice and support. The college began to examine more closely the effect of the sewer plan on the glen.

Then in September, 1958, came the bombshell: a highway through Glen Helen! A 300-foot wide, dual-lane, fenced-off right-of-way, part of the new federally-supported interstate system! It would split in two the Yellow Springs School Forest, destroy the plantation test plots, and cut off access for the Christmas Tree Festival. It would pass within a stone's throw of the Outdoor Education Center, with an interchange just beyond.

Protests began pouring in to the Ohio Department of Highways. One of the department's consultants inquired if it would help to shift the highway eastward to roughly the boundary of Glen Helen and John Bryan State Park—as though 300 feet could be contained in a boundary line. The unbroken green island of the two contiguous properties would thus be separated; access would still be blocked to the school forest;

and now a Girl Scout camp at the edge of the park would be affected. All concerned agreed to stand firm.

An appeal was sent out as follows:

October 21, 1958

To All Friends of Glen Helen:
To Advocates of Parks, Camps, Forests, and Nature Preserves:

A 300-foot DUAL HIGHWAY IS PLANNED THROUGH GLEN HELEN AND THE YELLOW SPRINGS SCHOOL FOREST.

Glen Helen provides leadership in outdoor education and conservation, of service to all Ohio.

We need the testimony of widespread public opinion. Write Governor O'Neill of your concern for Glen Helen and for the inviolability of parks and natural areas. Ask him for his stand.

Ask your friends and organizations to do the same.

Write now to:

GOVERNOR C. WM. O'NEILL
COLUMBUS, OHIO

Sincerely yours,
Kenneth W. Hunt
Director of Glen Helen

The response was immense. In Yellow Springs letters went forth from civic organizations, churches, and schools. Across the state people were alerted by the leaders of the conservation societies, the garden clubs, the youth and recreation agencies.

Within two weeks—just before election—the situation appeared to be saved. Governor O'Neill wrote that he was instructing the Highway Department to study other possible locations "so as to thus avoid going through Glen Helen" and "so as [not] to harm any state park or recreational area."

Now the college could take stock. Immediate disruption of Glen Helen had been averted. But what had been regarded as a remote, urbanized tomorrow now looked very much closer. Presumably the highway would still pass close to Yellow Springs. Motels and shops would spring up by the interchanges, where traffic would swing off for Dayton. New housing developments would mushroom now that cities beyond would be so easily reached. The Glen Helen-Bryan Park area would truly become a green island in a surging suburban sea, much sooner than supposed.

In January, 1959, heavy rains struck Ohio, the most severe since the nearly-forgotten 1913 flood, and practical engineering doubts appeared concerning a sewer in Glen

Helen. Water inundated the valley from one side to the other, rising ten feet above usual stream level. Would the thirty-six manholes in the proposed sewer remain tight in this flow? Incipient new channels broke away from existing stream beds. Wherever the sewer crossed a stream it was to be enclosed in concrete, but what if the stream should change its channel? The main paths were severely washed out where there was no protective network of roots and surface growth. What would happen to the loose fill that would cover the sewer trench?

Accordingly, Antioch College sought independent engineering advice. In March the engineers submitted a report to the College. Outstanding among its points were these: 1) Adequate design for a sewer line in the glen had not been shown; 2) maintenance of such a line would be a costly necessity; 3) a permanent access route must be maintained for the whole mile and a third of the line.

Therefore the college insisted on a much more detailed statement of the sewer plans. In June the village engineering consultant submitted revised figures, in which the estimate of the proposed line had been multiplied by three and a half times! This brought the cost of the sewer line and disposal plant in Glen Helen to within 5.5 per cent of the cost of an alternative system which would spare the glen.

There remained, however, the objection by the village that the alternative plan would involve the continual expense of pumping the sewage over a high point on the route, whereas the gravity flow line through the glen was held to be cost free. This overlooks, of course, the unpredictable costs of maintenance and repair following floods.

But this is getting ahead of the story. Enter again the highway into the drama! For in February it was discovered that the Highway Department's consultants had rejected alternatives and were recommending that the highway go through the Glen Helen—Bryan Park area after all. Governor O'Neill had lost the November election. New appeals must be sent to his successor, Governor Michael V. DiSalle. By now many influential friends of Glen Helen were ready to help. Meetings were held in Columbus. The Deputy Director of Highways came to Yellow Springs and toured Glen Helen with college staff.

A luncheon was arranged at Anti-

och for highway officials, heads of leading conservation and citizens' organizations, and college and village representatives. The village officials indicated territory west of town, on the opposite side from the glen, where the highway would be more acceptable. The highway staff discussed plans freely and with courtesy and understanding. The meeting ended amicably and hopefully.

Finally, at the end of March, word came from Governor DiSalle: the highway would go west of town. Glen Helen was saved—from one of its perils.

This outcome was hailed as a significant gain in the growing effort to preserve parks and natural areas from the spreading metropolises and their concrete tentacles. A national conservation society, the Nature Conservancy, together with the Conservation and Research Foundation, sponsored a booklet, "Witnesses to Wilderness," publicizing Glen Helen's victory as a case history to hearten other beleaguered parks.

Yet quietly, all this time, discussion about the sewer continued between village officials and Antioch trustees and administrators. The issue finally broke into the newspapers in September when it be-

came apparent that each side was unyielding.

Now feelings run high in Yellow Springs between those who believe the village plan for a sewer in the glen is economical and feasible and those who believe it is not; between those who think the effect of the sewer on Glen Helen will be negligible and those who fear it will be severe; between those who are not worried about keeping the glen and those who believe the test of its survival is now under way.

Of course the friends of Glen Helen throughout Ohio are as staunchly opposed to the sewer as they were to the highway. Why then are so many in Yellow Springs now saying, "But this is different?" Obviously the difference is whether or not one is directly involved in paying the possible price of preservation.

At this writing, it remains to be seen whether the people of Yellow Springs will pass the test of holding what they have. And the people of Yellow Springs are the people of America. Each of us in our own communities may sooner or later face their choice. It is a choice between tangible taxes and the intangible benefits that open space and natural beauty can contribute to the human spirit.

Heart of Glen Helen's natural area which was set aside thirty years ago



Waters rising! Streams sometimes rise 10 feet above the normal level after heavy rain

Two Antioch student counselors conduct sixth-graders on a nature hike



"A Man's Home Is His Castle . . ."

(From page 19)

now have a workable method of communicating with the states. This co-operation will be an important part of our work.

The actual commission staff in Washington is small but efficient. Francis W. Sargent, former Commissioner of Natural Resources of the Commonwealth of Massachusetts, is the executive director. Dr. Norman Wengert, of the University of Maryland, is Deputy Director for Studies and has had wide experience in both the academic and administrative sides of resource management. In addition, we will call on individual consultants and private consulting firms to the extent that they can enable us to get specific information as needed without having to enlarge our staff.

The commission feels that this organizational concept, with its wide background of experience and interests, its machinery for co-operation with federal agencies and the states, and its staff of specialists, will be able to carry out the project assigned. Personally, I feel most fortunate in having such a group with which to work. Many different points are represented, but all are united in dedication to the importance of the job.

I would like to outline that job briefly. We are directed by Congress to make an intensive study of our national recreation picture—both as it appears today and as it is likely to appear in the future. We are given the years 1976 and 2000 as specific target dates for planning. This study will involve an analysis of the factors likely to affect our need for outdoor recreation needs—increased population, more leisure time, advances in transportation technology, more disposable income, and the other dynamic forces which are changing our way of living so dramatically. It will also include a survey of current recreation resources, their growth potential, and new areas for development.

In the light of these studies, the commission is to make recommendations by September 1, 1961, for a program of action. These recommendations are to include the role in outdoor recreation of the states as well as that of the federal government. We will also take into account community problems and activities. Indeed, the inter-relation of these three levels of approach will be one of our major concerns.

Our look at the nation's outdoor recreation situation is to be definitely an effort to get an overall perspective. Public Law 85-470 makes clear our objectives:

"Be it enacted by the Senate and

House of Representatives of the United States of America in Congress assembled, that in order to preserve, develop, and assure accessibility to all American people of present and future generations such quality and quantity of outdoor recreation resources as will be necessary and desirable for individual enjoyment, and to assure the spiritual, cultural, and physical benefits that such outdoor recreation provides; in order to inventory and evaluate the outdoor recreation resources and opportunities of the nation, to determine the types and location of such resources and opportunities which will be required by present and future generations; and in order to make comprehensive information and recommendations leading to these goals available to the President, the Congress, and the individual states and territories, there is hereby authorized and created a bipartisan Outdoor Recreation Resources Review Commission."

We are all familiar with the booming demands on our recreation resources—the substantial annual increase in visits to national forests—the huge increase in boat sales—the skyrocketing trend in hunting and fishing license sales. If we project these upward trends to the future, we can get some idea of the tremendous demand our recreation resources face.

But even more dramatic than these figures is public experience. It takes no elaborate statistics to tell those seeking outdoor recreation that it is difficult to find a camping spot—that in some areas it is almost impossible to find a place to launch a boat—and that the choice hunting and fishing areas are becoming choked with fellow sportsmen.

As our nation grows, we know this situation will become even more serious—and more frustrating.

Of course, many of those concerned with outdoor recreation are planning ahead. Various federal agencies have conducted and are conducting surveys—the Forest Service's recreation study, for example. Also, many states are preparing programs for the future and various private agencies are concerned with the problem.

But each of these is necessarily and properly concerned with the elements of outdoor recreation which apply to its particular responsibility. Thus, the Forest Service is charged with the management of our national forests, so naturally its planning must focus on that resource. The same is true of other federal agencies with management responsibili-

ties. The individual states cannot be expected to approach the problem with an outlook encompassing the needs of the entire nation, for that is not their concern, nor can communities plan beyond their own boundaries. But the recreation-seeking public is not stopped by lines on a map—be they divisions of city, state, or federal responsibility.

The commission's study must transcend these limitations if it is to recommend policies with the entire national picture in mind. It must carefully weigh the various demands for recreation on our land resources. And these demands must be considered in the light of the need for houses, factories, highways, grazing land, timber production and other things that also require land.

Of course, the work that has already been done by groups with special or specific responsibilities will be enormously valuable to the work of the commission. Wherever possible, we shall use studies and data collected by various sources to the fullest extent that they are useful to us. We will not duplicate the work of others. Our job is to interpret available data for our specific needs. Only where the information we need is not available does the commission intend to produce studies of its own.

It is hoped that by standing back and taking a long-range view of our outdoor recreation situation, we can evolve recommendations that will be of lasting as well as immediate value.

One of our areas of major concern will be the better use of private lands for public recreation. This involves all levels of government—federal, state, and local—as well as private enterprise. And it is about this area that I would particularly like to talk tonight.

Private lands must continue to play an important role in our outdoor recreation program—both for the immediate future and for the long pull. The commission has not yet studied this problem in detail, and of course we are not ready to put forth specific recommendations. But a few of the factors involved in this area are evident.

This need to include private resources in our planning is rather obvious. In the first place, from a simple quantitative standpoint, it is evident that we must make some use of private lands for recreation. Over 73 per cent of all our land is in private hands.

This percentage breakdown does not even adequately reflect the need to use private lands. We all know that most of the public lands are in the West, while most of the population is centered

in the East. New England and the Middle Atlantic states, for example, have over a quarter of our nation's population and less than one-twentieth of its land. And 90 per cent of this land is in private hands!

In addition to the quantitative factor, there is also the matter of quality. For the first hundred years of our history as a nation, it was the policy of the government to dispose of lands—to put them into private ownership. Naturally, the best land was taken first, and what was left remained public domain. So today, in many areas where there are public lands in the percentage columns, they do not really represent recreational opportunities.

This idea of public use of private lands is nothing new. In fact, commercial outdoor recreation operations, ranging from small campsites and local ski tows to large resort areas, are not only providing significant services but are also an important part of our economy. We certainly want to encourage sound and practical activities of this nature that are in the public interest.

But, in addition to such planned commercial projects, there has been traditionally a wide-spread and often unauthorized public use of private lands wherever possible for such things as hiking, picnicking, camping, fishing, and hunting.

We have taken this use for granted—and here may be the heart of the problem. This use has been generally accepted and really not much of a problem until the recent great growth in population and demand on our resources. A woodlot owner is not likely to mind if a hunter or two a year comes on his land. But when faced with today's thundering herds of Nimrods, he has every reason to be dismayed.

To accommodate the ever-increasing number of Americans who are taking to the outdoors, we need public use of private lands. How such lands can be used for the mutual benefit of the public and the landowner may well be an important part of this commission's recommendations.

Should we not benefit from our experience in multiple use for public lands and start thinking along the same lines for private lands?

Primary problems that come up are related to accessibility. And I use this word in its broadest sense. I am thinking not only of physical accessibility, important as that is, but of the many other factors involved—economic, administrative, political.

And to these we must add the question of owner acceptance. I believe we in this country feel pretty much that man's house is his castle. And that goes for the land around the house, whether

suburban plot or vast acreage for farming or grazing. Thus, any long-range program to be successful must merit the voluntary co-operation of private land holders.

There have already been efforts in this direction. The solutions have been as wide and varied as the different local situations. But we can learn much from these often ingenious devices.

Perhaps the most work in this area has been done in hunting and fishing. In these sports the need to use private land has been most acute. But farmers have wearied of having their crops trampled, their fences cut or burned in campfires, their stock frightened or killed, and often, indeed, their own lives endangered. No wonder more and more of them are exercising their right of ownership and are posting their lands.



to relatives...

(SEE PAGE 45)

To offset this trend, groups of sportsmen in many areas have banded together to work with the farmers. In some instances, a method of payment has been worked out to the landowner. In other cases, sportsmen guarantee the farmer against damage from their activities.

In other situations, the government—state or local—has played a role in bringing private lands into the recreation picture. Some states pay private owners to allow access to streams flowing through their lands. Other states rent tracts of land outright for hunting purposes and allow the owner to continue to use his land in any way which does not conflict with the hunting.

I understand that our host state, Pennsylvania, has a program whereby it carries out specific wildlife habitat improvement on farms with the understanding that the farmer will not post his land to hunting. Wyoming has developed a system whereby a license to hunt pronghorn antelope includes a spe-

cial tag. When the hunter kills an antelope, he is supposed to give this tag to the landowner. The owner in turn surrenders it to the state, which gives him a portion of the hunter's fee. Some states have considered remitting a part of the real estate taxes to those landowners who agree to allow hunters on their land and allow development of wildlife habitat.

Another promising area for recreational use is in privately-owned timberlands. They are probably the most important single segment of private lands. Here I would like to pay tribute to the great work done by The American Forestry Association in furthering the realization among timber growers that self-regulation and awareness of public recreational requirements may add up to good business as well as good citizenship.

I have been much impressed by a statement of the American Forest Products Industries, which shows that, in 1956 (the latest year for which figures are available) some 32,377,000 acres of private timberland were open to the public without permit.

Still another area lies in recreational facilities run as adjuncts of private business enterprises. For example, I understand that the Lehigh Coal and Navigation Company here in Pennsylvania has recently opened five thousand acres of its land on a commercial basis. This was done, I believe, after independent research revealed that such a venture was a good business opportunity.

These are only a few of many possible ways in which greater use can be made of private lands for public recreational purposes.

In concluding, I want to emphasize that my remarks represent only preliminary thinking. Obviously, the commission has not yet had the opportunity to give this matter full consideration. Before it can recommend policies, it must find the answers to such questions as:

1. To what extent does outdoor recreation require the public use of private lands?
2. To what extent can we expect changes in the recreational habits, actions and desires of the public in 1976 and in 2000 to affect this need?
3. How can public use of private lands for recreation be made compatible with present and future private usages?
4. What administrative economic and contractual problems are involved in the use of private lands?
5. What private, local, state, and federal funds will be available to compensate for the use of private lands?

I know that I have left questions un-

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RESULTS: On first pull of starter rope engine turned easily and smoothly. Second pull produced partial combustion. Third pull resulted in full power start. Saw idled and accelerated smoothly. Subsequent wood-cutting analysis proved torque and RPM excellent.

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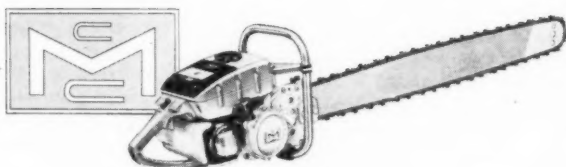
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answered and objections unmet. Certainly, the public use of private lands is more complicated than this brief description indicates. However, I wanted to bring to your attention one of the problems of co-existence of people and resources in which the commission is interested.

This is, of course, but one of many such problems with which we—and you—are concerned. But it is hoped that with a bold, imaginative, and objective approach to a wide range of such issues, the commission may make a contribution

toward developing and preserving the benefits of the outdoors for all Americans—both present and of future generations.

Being with you this evening has indeed been a great pleasure for me. It is the interest and concern of forward-thinking groups such as yours that brought the Outdoor Recreation Resources Review Commission into being. And your continuing interest and concern will be a great source of strength in transforming its recommendations into reality.

"Boost The Standards"

(From page 18)

the "golden sixties" will increase the need for foresters so fast that the supply will not be able to keep pace with the demand. But can we count on expansion to solve this problem by itself?

The entire modern history of America is a history of expansion. Since 1900, our population has jumped from 76 million people to something like 173 million, and the gross national product—in constant terms—has increased an estimated 20 times. To cite just one specific, construction was started on five times as many non-farm dwelling units in 1957 as was started in 1900. Yet, during this entire century, there has been no increase in the output of lumber in America.

This might suggest that we have reached maximum output—that we *can't* produce any more lumber than we are now producing. But over a quarter of the total area of our country is commercial forest land. Besides, lumber is a renewable resource. It takes time, but we can grow trees. Further, I've noticed that the National Lumber Manufacturers Association doesn't seem to feel that scarcity is the reason for the lack of increase in the lumber output. This year, as I'm sure you know, they have launched a \$1.3 million National Wood Promotion Program designed, I understand, to buy their way into the hearts of the consumers. Such a program would be futile, of course, and a sheer waste of money if lumber production were already at maximum output.

The action taken by NLMA reminds me of one of my favorite Ogden Nash verses. It's appropriate for me to mention this particular poem today, because it's concerned with Columbus and the discovery of America. In this poem, Ogden Nash points out that after Columbus reported his discovery, the Spanish authorities threw him in jail, where—

The fetters gave him welts,
And they named America after some-
body else;

So the sad fate of Columbus ought to

be pointed out to every child and every voter,

Because it has a very important moral,
which is, don't be a discoverer, be
a promoter.

Those who are sponsoring the NLMA program evidently agree with Ogden Nash. At least one spokesman for their program has identified the "enemy" as the manufacturers of "competitive" materials—he mentioned steel, brick, aluminum, and plastics—and accounts for the inroads made by this enemy on the basis of the size and vigor of his advertising campaigns. This may have something to do with it, but is it the whole story? Even Ogden Nash would have to admit that you have to discover something before you can promote it.

The simple truth is that the expansion I mentioned just a minute or two ago is based to a tremendously important degree upon research—research to discover new products and to improve old ones; research to discover new methods, techniques, and processes; research to discover new and better ways to manage men, materials, and money; and so on.

At least two statistics I found during my evening sessions seem to indicate that somewhere along the line research in lumbering and the lumber industry has not kept pace with the research in many other fields. I found that the price of lumber has increased almost 400 per cent relative to the general wholesale price index during the last 90 years, and that productivity—that is, the labor required to produce one unit of output—in the lumbering industry has increased only about half as much as has productivity in manufacturing since the period between 1910 and 1914. In comparison, the productivity of corn, wheat, and other grains has increased half again as much as has manufacturing in this period.

Both of these things admit to research. But research is done by people, and the quality of the research they do depends to a large extent on the sort of training they receive. And this is true not just of research but of every aspect of the lives

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Gift Card to read "FROM" _____

MY NAME _____

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(The names of additional people to receive gift-memberships may be put on a separate sheet of paper and sent with this order blank.)

we live and of the businesses, industries, and occupations in which we make our living. Even at the risk of losing a few friends among this audience, I have to insist that brainpower, not timber, is our most valuable resource. Our future—collectively and individually—depends basically on how well we develop this resource.

This brings me back to the three-pronged discovery I made during my homework sessions. How well prepared are the graduates of our forestry schools? How well designed are our curricula and programs of forestry education? Here, I believe, is an area of research particularly appropriate for the consideration of The American and Pennsylvania Forestry Associations, and I should like to discuss it with you for a few minutes.

Colleges and universities have always had a great deal of trouble keeping their programs abreast of the society that they serve. This is particularly true in a dynamic technological society deeply committed to the value of and need for research, as is ours. In such a society, it often happens that a young graduate finds that the knowledges and skills that he has worked hard to acquire are obsolete even before he has a chance to employ them. I might add that the colleges and universities have not always co-operated as fully as they might have in this matter. In fact, one of the principal reasons for the establishment of the land-grant colleges and state universities in which most of the forestry schools are located was the reluctance of established institutions of higher education to add instruction in the newer professions to their traditional offerings.

This "cultural lag" is especially apparent in these newer professions. Forestry, I think, which is scarcely 60 years old as a profession in our country, is a typical case in point. When the forestry movement began in America, the important immediate job that had to be done was to organize and consolidate our forest properties. Administrative skills and techniques were needed, and fire control was the primary technical consideration. Many of these early administrators—in fact, most of them—were not foresters but were geologists, botanists, engineers, and just plain people who became concerned with the extravagant destruction of an important natural resource by human and natural enemies.

A need soon developed, however, for the development of a body of sound technical knowledge and a group of people who could apply this knowledge to the solution of practical problems. We needed timber cruisers, forest engineers, silviculturists, and specialists of many other sorts, and their job was principally that of conducting a holding operation. "Know-how" was the important

consideration for these people and for the people in the several other young professions that were developing in America. In fact, "know-how" almost became a symbol for the American professional man; as the body of technical knowledge grew, so also did the courses and curricula offered in the professional schools of our country.

Where do we stand today? I should like to suggest that forestry has come of age, that it has grown up, and that "know-how," although still a necessary requirement, is no longer a sufficient one. Because of the splendid work done by our public forestry agencies and the rapid advance made by private forestry, the "holding action" phase has been completed, I think, and it is time for forestry to move ahead—to cast off its role of social servant and to assume the position of leadership to which its maturity and its importance entitles it—in fact, obligates it.

In this new phase, "know what" and "know why" will be just as important as "know-how." Imaginative basic research, the substance from which all real progress is made, will be even more important than "empirical," "practical" applied research, and this phase will require the development of forestry scientists. It will also require the development of managers capable of managing huge forests to obtain multiple—and often conflicting—objectives: sustained yield, the reduction of development costs, the preservation of wildlife, the development of recreational potential, conservation, and the like. It will require the development of people capable of operating large lumber companies and other businesses with a great deal of insight into the nature both of forestry and of people. It will require people who can sit down at conference tables at the highest levels not to find out what policy is but to help formulate it—and, in formulating it, they will have to be knowledgeable not just about the ecology of timber but also the ecology of human beings. It will require scientists, theorists, philosophers, managers, leaders—all specialized in forestry.

How well are our forestry schools meeting these needs? Not very well, I suspect. I agree that people of the sort I've been describing—I like to call them "innovators"—cannot be developed in the usual four-year undergraduate period; nor can they be developed, I think, in the five years recommended by many people. What is needed, I believe, is a full seven-year program aimed at challenging our brightest young men to realize their full potential. I think this should not be a simple extension of our present programs, with their emphasis on "know-how" or the acquisition of technical skills and knowledges. It will,

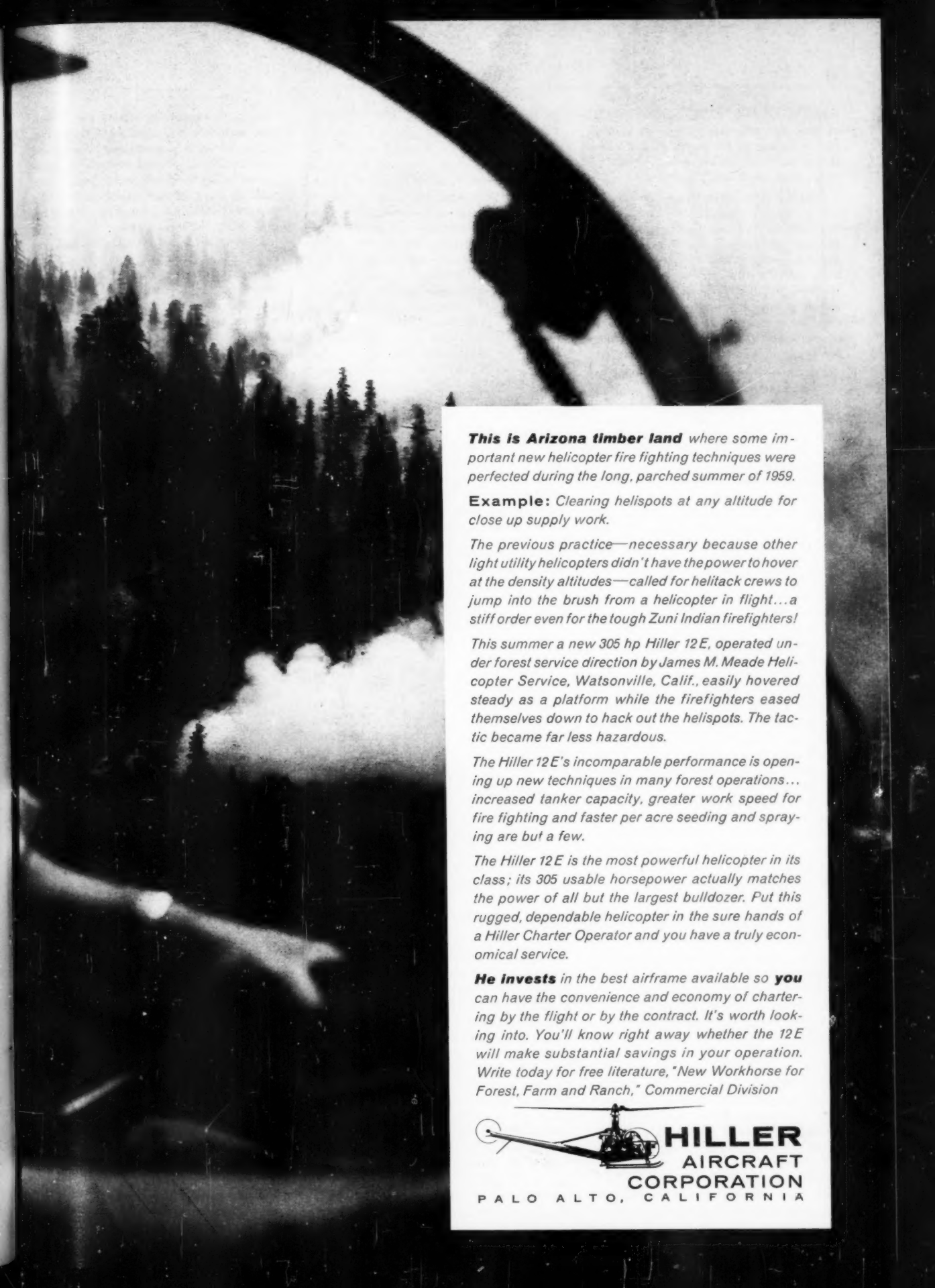
rather, be oriented toward scholarship and basic science, and it will provide opportunities for the student to synthesize knowledge between—and even among—basic disciplines. It will provide him with a background that will permit him to study the interaction between natural resources and economic growth. It will be a new program—a special program—designed to provide a broad base upon which to erect a superstructure of intense specialization during the last three years. It will be a program designed to provide future forestry leaders with the solid socio-humanistic foundation necessary to formulate policy wisely in an area that involves people as significantly as it does trees.

I might mention in passing that such a program will be very expensive, and this fact might suggest the desirability of regional pacts. In looking over the forestry-enrollment figures for 1954, I was struck by the low enrollment in many of the graduate schools across the country. One school had 91 undergraduates but only three graduate students. In another, the ratio was 132 to four. Still another had 106 undergraduates and only three graduate students. With distributions of this sort, the consolidation of some of these graduate programs might easily result in improved quality of the programs while, at the same time, reducing costs.

Not all young men, of course, would be capable of completing a program as tough as the one I've outlined. But the development of innovators and leaders in the field of forestry would not reduce the number of four-year forestry graduates needed by the industry. In fact, the more successful these innovators are in securing for forestry and the forest industry a position commensurate with their importance to America, the more need there will be for men with a specialized technical training in forestry. There will still be a need for "know-how," and the number of problems demanding it for their solution will be increased.

By establishing a forestry science program of the type I suggest, however, we might make it possible to redesign the four-year program in order that it might do better the job that it can do. The present system suffers from educational schizophrenia: it tries to prepare all people for all things. It tries, on the one hand, to encompass all the training necessary for all foresters of all sorts while, on the other, admitting the impossibility of the task. If we were to develop a truly significant seven-year program, perhaps we could relax somewhat the number of requirements for the first collegiate degree and permit our graduates to major in one or another specialty.

We might even be able to correct what



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seems to me to be an inadequate amount of time and attention to the social utilization of our forest lands and to such things as conservation, wildlife management, and watershed protection.

You will notice that I am not suggesting a typical graduate program to be super-imposed on top of a regular undergraduate training. Rather, I am suggesting two separate and distinct programs, each with its own aims and its own objectives. I should like to carry this just one step further and suggest there is a need for a separate and distinct two-year program aimed at preparing young men for semiprofessional careers in forestry.

I'm not worried that the graduates of such programs will compete for positions with the four-year men, but I am worried about reports I hear that many foresters with professional qualifications are employed as timber cruisers, camp-ground attendants, draftsmen, and in other sub-professional work. Such men are working far below their highest skills. More important, as they grow older, their skills fade and are lost, forcing them to continue to work at jobs offering neither themselves nor society a return on the investment in their education.

If we do not train skilled nursery operators, timber estimators, log scalers, and forest surveyors, where are employers going to get men to perform these important jobs? Hire four-year graduates? I'm sure they could get the job done, but they certainly wouldn't be working up to the full level of their skill and knowledge. Hire high-school graduates and train them on the job? Would this method uniformly produce the quality of work the industry needs and the profession expects? I doubt it. And how about the management of the some 165 million acres of farm woodlands? This is almost a third of all the timber land in the country. Surely we need to provide some sort of program to help the thousands—perhaps millions—

of individual owners of this timber to manage it wisely.

If brainpower is our most valuable resource, some such program as this is vitally necessary. The traditional four-year collegiate program is ill-constructed for providing us with either the innovators or the technicians that we need. Besides, this traditional system is extremely wasteful of manpower. It fails to provide our most gifted students with challenges sufficiently vigorous to develop their full potential. Actually, it is more apt to implant habits of mental laziness by offering our best students courses in which they can make good grades and even win honors without "cracking a book." There is strong evidence, in fact, that we lose many of these students by forcing them from college through boredom. Further, with this system, we lose the less gifted ones altogether by forcing them into courses beyond their mental capacities or by feeding them theory when they are equipped to deal only with fact. By feeding our potential innovators with too much "how" and not enough "why" and by feeding our potential technicians with too much "why" and not enough "how," we fail to produce either good innovators or good technicians. . . .

America cannot afford this waste. The time has come, it seems to me, for us to develop a multitiered system of forestry education that will permit each student to develop to the full level of his potential. Students graduating from such a system can then get jobs at which they can work at their highest skill and employ their full knowledge. Such a system would provide us with a truly effective mechanism for conserving our most valuable resource.

I realize that it will not be easy to develop such a system. No changes as drastic as this requires can—or should—be undertaken without a great deal of study and thought. It will require close

co-operation among many institutions and with the Society of American Foresters, several federal agencies, and other vitally interested groups. Accreditation is involved. I warn you, therefore, that you cannot expect to find this system installed at Penn State at the beginning of the next term.

If you visit us, however, you will find many exciting things going on in the School of Forestry. During this last year, we asked Mr. Christopher Granger, retired Assistant Chief of the U. S. Forest Service, and Mr. Paul Dunn, Director of Forestry of the St. Regis Paper Company, to make a thorough study of our programs to determine how well they are meeting the needs of private and public forestry in Pennsylvania and to recommend changes to improve the quality of our instructional and research programs. That study is now completed, and is being examined very carefully.

No one, I can assure you, is studying it any more carefully than Dr. Peter Fletcher, who joined us this fall as Director of the School of Forestry. Dr. Fletcher comes to us from the University of Missouri and, before that, the U. S. Forest Service. I know from my conversations with him that he has many ideas for giving Penn State and Pennsylvania a truly distinguished program of forestry education. I have assured him that he has my wholehearted support, and I know you can expect to see many exciting developments at Penn State in the field of forestry and forestry education.

And, finally, I should like to commend The American and the Pennsylvania Forestry Associations on the selection of your excellent theme for this meeting—"Resources and People—A Challenge of Co-existence." I should like to remind you, however, that people *are* resources. In fact, they are our most valuable resource. Nothing is more important than the development and conservation of this resource.

Working Together Is What It Takes

(From page 17)

10 years of state, county, and local action groups. As one board member said, "I'm for millions of parks, but none over a million acres."

7) The board took no action on the amended Wilderness Bill pending further clarification.

8) An address by Vice President Edward P. Stamm (see page 10) on his recently-completed trip to Russia to study Soviet forestry problems was regarded by some as the most illuminating single talk of the entire convention.

9) Another address (see page 21) by Conrad L. Wirth, director of the National Park Service, was also labeled "most informative" by members. Among

other things, Mr. Wirth said that there was more to multiple use than cutting timber, and while new types of parks would doubtless be created, that people basically associate parkland with "water and trees." Asked what he thought of Maine's big Allagash area for prospective park purposes, Wirth frankly replied, "Well, I sure like it. But I would hate to see it flooded out by a dam built by the Army engineers. I am sure the timber people in Maine must feel the same." Here Mr. Wirth inferred that the objectives of the timber and park people may not be entirely inimical.

10) While he may not have been the official keynoter, in the opinion of many

people Dr. Dana made the keynote speech all the same. In an hour-long address, practically without notes, Dr. Dana seemed to be addressing every member individually as he warned against too much "rigidity" in thinking as conservation starts coming to grips with the unprecedented changes in the entire resource picture in recent years. To many, it seemed that Dr. Dana was warning against what Karl T. Frederick calls the "doctrinaire approach" to too many dynamic and changing resource patterns. It is no sin to change one's mind, Dr. Dana told the group, providing facts and logic indicate that such a change is wise. Dr. Dana said

he had changed his mind about "federal regulation" over a period of years and that he was prepared to change his mind about certain problems in recreation now being dealt with by the Rockefeller commission "providing Mrs. Lee, Mr. Rockefeller, and others can convince me that their thinking is more wise than my own."

Dr. Dana next proceeded to raise another question that will doubtless be debated at length in future months. The question, in essence, is "Do national parks practice multiple use?" Dr. Dana says they do. Limited multiple use, true, due to restrictions as provided in the Park Service's organic act, but still multiple use. Parks certainly provide a form of watershed management, Dr. Dana said. They also provide areas for scientific study. And they provide areas for the whole gamut of recreational activities with the exception of hunting. (In the proposed Cape Cod Seashore they also provide for hunting—Ed.)

This concept of multiple use was challenged by the Forest Service in the form of Regional Forester Charles A. Connaughton of California. Mr. Connaughton said:

"Multiple use is a concept of land use. In application it may involve several systems or methods of resource utilization.


"As a concept, multiple use dictates that *all of the resources and services* of the land are compatibly combined in such a way that they must fully satisfy the objectives selected by the owner or manager.

"Multiple use applies to units of land and not to individual acres within units. These units may be a single ownership of 10 acres or millions of acres of national forests.

"The concept requires that all resources of the land are utilized. In event the use of any significant resource is excluded by the management of objectives, multiple use is not applicable.

"Multiple use may be full use, but more frequently it is less than full use. The latter is obtained whenever utilization of the dominant resource requires that use of subordinate resources be scaled down to less than their complete use in order to fulfill management objectives."

Time did not permit Dr. Dana an opportunity to rebut Mr. Connaughton's definition, but he did so later at the Cosmos Club in Washington. Dr. Dana said he "agreed with Mr. Connaughton's definition of multiple use but not with his interpretation of it." Dr. Dana said Mr. Connaughton was saying in effect that "if the management objectives exclude *any* use, it is not *true* multiple use." Under this definition, so-called multiple use on national parks is automatically excluded, and Dr. Dana said that he did



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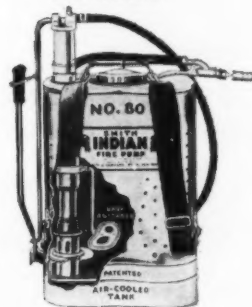
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not believe that to be the case. Any combination of management practices that meet the objectives of the owner or manager, whether it be units or acres, is actually multiple use. Dr. Dana stressed again. While it may exclude some uses, as long as it does not exclude all uses it is a form of multiple use. Consequently, Dr. Dana believes that Mr. Connaughton's interpretation contradicted his own definition.

People at the Cosmos Club, who split on the matter, found the theory an interesting one. Some accepted the Connaughton definition on the basis that objectives laid down by the Park Service's organic act were too rigid to permit real multiple use. Others pointed out that grazing is permitted on some park lands and that the Park Service has actually attempted salvage cutting in some instances until blocked by preservationist groups. The objection to this cutting as carried on in Olympic Park, for instance, was not so much to the actual cutting as to fear that was expressed that the Park Service was actually making money on the deal and might "get to like it too much."

Most people agreed, however, that whether it be on forests or parks the trend was in the direction of all or limited forms of multiple use. As one student observed, "Multiple use simply will not be denied."

Report on Russia

(From page 10)

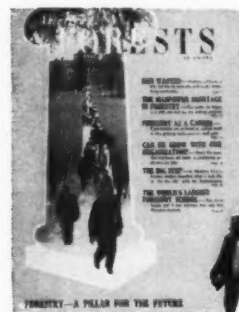
going on in the major cities and many thousands of apartment homes are being constructed, he reported. However, whole families live in very cramped quarters by our standards and frequently share the same kitchen and washrooms with other families. Transportation in the cities is "generally good," he reported. The subways are "excellent" and bus service "fair." Many people go to work in government-owned dump trucks. The government, he stressed, owns everything—grocery stores, barber shops, etc. Compared to American standards, most clothing is "very ordinary" and shoes are "poor to fair."

Mr. Stamm said that as a result of his observations he is of the opinion that the Russian people, rank and file, are peace-loving and are naturally a very friendly people, but that every Soviet failure in the past has been rationalized by the Communist allegation "that the capitalists will gobble us up if we don't do better."

The speaker expressed hope that a thawing in the cold war is indeed imminent. At the same time he drew a big round of applause from his audience when he said he was "proud to be an American" when he saw Vice President Nixon answer the Soviet Chairman's

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speech at the U. S. Fair in Moscow. Mr. Stamm, and other members of the American party, saw this episode, as they were in attendance at the opening of the fair.

Mr. Stamm was told by the Russians that concentration camps and the like have now been abolished and that there is "no compulsion" in the so-called "Institutes of Work Correction." "It is all very simple. In those institutions they either work according to plan or they don't eat. Most of them eat. So you see there is no compulsion."

Mr. Stamm said that his hosts, including "very intelligent" interpreters who hued like glue to the Communist party line, did everything in their power to make the visit both enjoyable and profitable. But in showing them photographs of his home, his family, their individual automobiles and the various luxuries most Americans take for granted, the Russians would shake their heads and say, "This we do not believe" or "This can not be true." Nor would they believe that the picture they saw of 4,000 cars parked outside one industrial plant in the U. S. actually belonged to the workers. No worker who owned a car would permit it to remain outside in the weather every day, they said.

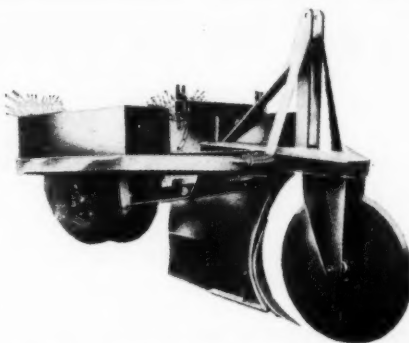
This was one reason Mr. Stamm was in haste to return to his home in Portland, Oregon, where he hopes to entertain members of the Russian task force when they arrive on the West Coast on October 20. While he liked his new Russian friends immensely and greatly admired their work habits, he has a desire to show them that most people enjoy comfortable homes, own their own automobiles in which to go to and from work, and that the same thing is true of almost everyone in his neighborhood, his city, and his state. (JBC)

Don P. Johnston

(From page 9)

duced by the Fourth American Forest Congress in 1953 be re-examined and invite all interested departments, agencies, organizations, and individuals to a third Higgins Lake Conference, to participate in clarification, expansion, and pinpointing of the many phases of this complex, far-reaching, and over-lapping aspect of our suffering natural resources. And then call a Fifth American Forest Congress to debate all angles.

The next step would be to organize an advisory commission with staff, budget, and priorities, to evaluate, suggest timing, and recommend priorities, so as to have plans ready not only for the national forests, the national parks, and the overall outdoor recreational needs, but for the whole complicated watershed network, for which no plan has been attempted. We need this overall program



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for the encouragement of private enterprise and as a guide for local, state, and federal execution. Public works appropriations have long been a necessary part of our American economic system. It is suggested that a natural resource conservation program would be of immense value to the Congress in making prudent allocation of funds to all comparative public needs as weighed with "rivers and harbors" and some luxury projects, as proposed in the past by local and selfish interests.

Colonel William B. Greeley told us, while a director of our association a quarter of a century ago, "Forest conservation is wise use." The more we think of that phrase, the more we see that unless it can be used it is of no use. So, we should use wisely. Truly, forestry is growing up!

Industrial Pressures

(From page 21)

can assume will continue to increase.

But figures for paper consumption—from 60 pounds per person to well over 400 pounds today—must be multiplied by population increases before we can realize the true impact that this may have upon the forest.

Let us consider another figure: Acreage of forest land. There are 489 million acres of commercial forest land in the United States and coastal Alaska today. This is 2.85 acres of forest for every person in the United States.

If present population trends continue and forest acreage remains the same, by the year 2000 we will have 1.75 acres per person. Losses of timberland to increasing competition from other land uses may mean that we will have about half the usable forest acreage per person in the year 2000 that we now have.

Now let's look at another factor: Recreational use of the forest. Mushrooming populations, shorter work weeks, higher disposable income per capita, urbanization and its pressures and tensions—all these are factors contributing to a fast-growing force of impact. In Michigan, for example, economists have predicted that recreation will become the number one use of the forest—perhaps within the next 25 years. State and federal forest ownerships in Michigan are geared primarily to timber production, with recreation a secondary consideration, mainly confined to small areas. Already government officials are planning for recreational pressures that may use our timber-producing lands as vast public playgrounds.

What has recreation to do with industrial impact on the forest, you may ask? The two forces of impact go hand-in-hand. Industrialization has produced nearly every single one of the factors

that has led to the recreation boom. . .

If we, as Americans, went overboard for recreation and seriously hampered timber production as a result, we would be killing the goose that laid the golden egg. . .

So just what do I consider is industry's impact upon the forest? Our greatest impact is as a tremendous stimulus to forest management. *A tremendous stimulus to forest management.*

Forest surpluses and the long rotation of the forest crop-making research in this field, slower than in agriculture, for instance, have kept the science of forest management in the Dark Ages until recently. But we're crossing the threshold into a new world filled with tremendous possibilities. The growth of industry, at the same time that it has been creating pressure on the resource, has multiplied many times the ways and means available to cause our forests to become more bountiful producers.

Forest industries spend millions for forest research. We're finding out how to use tree species that until recently produced little of value to man. We're finding ways to utilize the parts of the tree that we leave in the woods. We're finding ways to better utilize each piece of wood brought to the mill. . .

To augment the application of all the forestry knowledge we are acquiring, industries are expanding their programs of education. This is a vital link in the resource chain. Owners of small private forest tracts hold the key to more than one-half of our forest resource. While many of these small forests are outstanding examples of good forest management, the averages tell us that on the whole they are sub-par. But educational programs and expanding markets are arousing private landowners. . .

As industry grows, so does the need for recreation. People are industry's most important asset. Industry is extremely aware of the need for forest-based recreation in today's world. Much of our research is aimed at co-existence of timber production and recreation—"multiple use," if you like that term better.

If there is a conflict between recreationists and timber producers, it probably centers around aesthetics, "the philosophy of the beautiful." Stumps and slash are not inherently beautiful, as are living trees. To the aesthetic purist, American forests have been despoiled by roads and campgrounds. In a "pure" forest, the trees would fall over with old age. Few men would even enjoy the sight of them, for they could not be reached.

We need a few such wilderness areas on our continent. Luckily, however, the majority of our population desires its outdoor recreation in a somewhat less

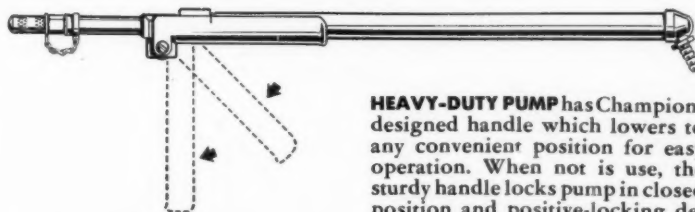
unspoiled state. These millions enjoy concrete access roads, running water and electric lights at campsites, and many other conveniences. They are willing, apparently, to sacrifice aesthetics for the chance to enjoy these things often. . .

Why do I dwell on the aesthetics of forest use? To live in a modern civilized world we must be willing to accept our forests—like our farms—as working agricultural areas. This does not mean that we must limit other forest uses. It means that we must orient our thinking so that we may fully appreciate the forests in their working condition—complete with logging roads, stumps, forest plantations and the other paraphernalia

of production. We must learn to live with forestry as we use the forests.

To our credit, this is being accomplished today. Forest industry ownerships are being subjected to a steadily increasing use by recreationists. Why? Because *managed* forests almost automatically provide an improvement in secondary values. Most wildlife—especially big game—thrives in the intensively managed forest. The bird hunter knows that grouse prefer the aspen cut-over. Rabbits love the protection of downed limbs and tops. Deer multiply rapidly with the lush regrowth and additional "edge" created by logging. Viewed through the eyes of many out-

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tinental missiles and hydrogen warheads have made Americans increasingly conscious of another political philosophy and the power of Russia with her vast natural resources. We cannot afford to hamper the intelligent development of any resource—especially a renewable resource like the forest. . .

Fires In Alaska

(From page 23)

interior supports only small and scrubby timber, and that growth is excessively slow, is erroneous. In mature stands of 120 years which have escaped fires, white spruce will average 18-24 inches, with occasional trees as large as 36 inches. Heights will run around 80 to 100 feet. There are estimated to be 350 million board-feet of timber, or 700 million cords of pulp material within the interior of Alaska. Probably the volume burned each year in the past could support about 10 pulp mills such as the one at Ketchikan, Alaska, which processes 500 tons of pulp per day.

These forests are peculiarly liable to destruction due to low precipitation and long daylight hours coupled with high temperatures. The forest types of white spruce, paper birch, aspen, poplar, and black spruce are by their very nature readily inflammable. This, combined with a heavy growth of "beard lichens," moss, and low-hanging branches, makes for fast spread of fire. The peat bogs found in the lowlands also burn readily and hold fire, in some instances throughout the long cold winters.

The major cause of fire from earliest times to the present has been man, the Indian and the miner, originally, and now the hunter and tourist are added risks. However, the larger and more extensive fires were and still are caused by lightning, although they represent only 28 per cent of the total by number. During the famous gold stampede following the 1896 Yukon gold discovery, millions of acres burned each year. Railroad and highway construction was also a contributing factor to the widespread burning.

The interior forests' vast potential pulpwood reserve awaits only a favorable economic climate for industrial development. The Timber Resource Review of the Forest Service conservatively estimates that the annual national pulpwood consumption will run 56 million cords per year by 1975 and about 90 million cords by 2000. Most of Southeast Alaska's pulpwood forests are already committed under long term sales to pulp plants now operating, under construction, or in the planning stage. It appears that the interior of Alaska is the last great United States reservoir for pulpwood material.

Forest vegetation development follow-

ing fires in the interior tends to change on well-drained sites. White spruce forests change into paper birch and quaking aspen, while stands of paper birch and aspen appear to perpetuate themselves, as does black spruce, which is usually found where the drainage is poor and the permafrost table close to the surface. Continued large burns on many areas have so completely destroyed the seed source that many stands may eventually have to be artificially seeded before tree growth can once again become established.

The forest soils of the interior are shallow, with a permafrost table usually close to the surface. The permafrost is covered with a mantle of peat, lichens, and mosses, which tends to insulate the soil. The degree to which forest floor material is consumed varies with the intensity of the burn. However, due to the insulation, mineral soils are affected only in the most severe burns. Practically none of the organic matter within the mineral soil is consumed. Chemical changes in forest soils resulting from fires appear to be ecologically favorable, especially in light burns. Although the total nitrogen capital of the site is reduced by fires which consume the forest floor material, the nitrogen available to plants appears to be increased. Acidity is decreased and exchangeable calcium, potassium and readily available phosphorus are increased.

The effect of forest fires on water supply is much the same as that found on other forested areas. It tends to increase runoff, especially on steep slopes. Due to the permafrost character of the lowlands, moisture is not absorbed and runoff is normally rapid. All low valley areas which do not have a definite stream pattern catch and hold the water, which results in many lakes. The problem of water supplies in the Alaska interior will become more acute as population increases and development takes place. With increased demands, more attention will have to be given to the hydrologic rate of the forests. . .

Fire control in Alaska was first recognized in 1939 when the Alaska Fire Control Service was set up under the General Land Office. This organization was absorbed in 1946 by the Bureau of Land Management. From the beginning to the

present it has been an uphill battle. The first appropriation was \$37,500, but at that time the Civilian Conservation Corps furnished the manpower and facilities.

Today, we find an up-to-date fire organization in every respect, with smoke-jumpers, borate spreading planes, a fire danger rating system, a complex radio communications system, and a small fleet of aircraft. At first one might think the BLM is ready to do a complete job.

It is difficult to imagine the logistics that go into the planning of fire suppression for an area of 225 million acres with practically no roads and only scattered landing fields. Smokejumpers were dropped during this last season as far as 350 miles from their base of operations. In many cases they were dropped into areas where only helicopters could follow with firefighters and supplies. For a dozen or so fires a week, with limited aircraft, this system works, but when lightning crackles from the mouth of the Yukon River to the Canadian Yukon border, a distance of over 1,000 miles, a major task must be met. During this year's fire season about 1,558,729 acres were burned in Alaska.

The Bureau at present has two large fire control stations with full facilities located at Anchorage and Fairbanks. These are augmented by 12 one-man fire guard stations. Much of the early success of this past season can be attributed to smokejumpers and the use of borate.

However, when the distances from operating bases to the fire reached over 200 miles and the number of fires increased materially due to lightning storms, then the system tended to break down. More stations such as the ones at Fairbanks and Anchorage must be built and manned at strategic points throughout the interior. Early detection and fast transportation are the key to better suppression, and this can only be accomplished if and when these terrific distances can be lessened, thereby cutting supply line problems and costs.


All improved techniques are being used. A fire education program is in full bloom. Campgrounds and picnic areas have been built. All of the things it takes to promote forest-fire consciousness are being done. This is good, but it does not put out fires once they are started. It is estimated that the area can be protected for one-half to one cent per acre per year, which is peanuts compared to fire cost contracts now in force in the Pacific Coast states.

The destiny of Alaska can be achieved only if her resources are widely used. Widespread destruction of forest and other vegetation by fire, with all its train of harmful effects, cannot be judged wise use. The citizens of Alaska and of the country in general have a serious responsibility if the state of Alaska is truly to become "The Great Land."

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Ecological Influences

(From page 22)

phenomenon calls for caution and careful observation by the forest manager.

7. If such degeneration of the forest site reduces the capacity of the soil to take in water, enough to cause rainfall excesses in any substantial amount, the resulting overland flow is likely to cause soil erosion and flashy, silt-laden floods. With more water running over the watershed surface, less will get into underground storage. As a result the summer flow of streams is likely to be lowered and springs will dry up.

8. If, on the other hand, no damaging excess rainfall results from timber removal, and the associated site degeneration is not serious, opening of the forest should ordinarily increase total yields of usable water, build up flood discharges only to a minor extent, and still permit a normal supply of water to pass through the soil to groundwater, therefore producing sustained streamflow from deep sources such as perennial springs.

9. Skid trails, logging roads, and highways present special problems of watershed damage. By exposing soil and cutting across water-bearing layers, a system of roads in rolling or mountainous watershed land may often exert a substantial effect upon streamflow behavior,

total water yields, and sediment production. This effect is illustrated by the "wet-weather springs" which all of us have commonly observed on road-cuts in mountain topography. These springs are simply the drainage of sub-surface flow from slow-moving groundwater out into the road-side ditches, where it moves rapidly through the nearest streams.

Invariably this effect of skid trails, logging roads, and highways is deleterious. Therefore, it is important for watershed managers to plan and carry out road construction so as to minimize the exposure of soil to falling and flowing water. . .

10. In steep mountain country where drainage is rapid and the streams run at high velocities, engineering structures such as dams, revetments, and channel barriers may be needed to stabilize the channel and to minimize side-slope erosion. Corresponding regulation is often needed in valley areas, through the use of levees, flood-control dams, and multipurpose reservoirs.

11. With some exceptions, the control of water yields and floods by vegetation management is most pronounced on relatively small areas, and tends to diminish



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on larger drainage basins. The greatest benefits can be expected from intensive vegetation management or protection on crucially important watersheds. In many areas, systems of small upstream reservoirs may be well employed to supplement and strengthen water regulation by vegetation management.

12. In the larger drainage basins and in large protracted storms, water control by vegetation management at upstream structures is usually inadequate and must be reinforced by larger engineering works in the main stream channels.

These statements present the merest sketch of all the knowledge that has now been accumulated on the ecological relations of forest vegetation to water and soil. Intensive academic coursework or years of guided experience are needed before a forester can wisely apply these principles to the protection and management of watershed land under a variety of environmental conditions, and yet even the specialists in this field still have a great deal to learn through research and experience. . . .

Speaking in a broader sense, all of these comments simply mean that the manager of forested watershed land has to apply the principle of multiple-use with true perception and understanding. This does not imply that every acre of the land under his jurisdiction needs to be used for a variety of purposes. It only

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implies that, in considering the management of his land, he has to consider all the needs and potential uses, correctly interpret their relative priorities, and govern the management of his land accordingly. . . .

In conclusion, let me comment that these broadened conceptions of watershed-management principles are well recognized in the watershed-management policy recently established by the Forest Service for the Southwest. This policy recognizes the need for water production as a distinct object of land management, along with wood, forage, recreation, wildlife, and other values. I think watershed ecologists in general consider this Forest Service policy a distinct forward step in the administration of watershed land. As time goes by, I hope that corresponding policies will be adopted for all other important watershed regions of the United States, and that forest land managers will universally come to realize that "watershed management is more than mere protection" and will apply this understanding viewpoint to the land under their care.

Lloyd E. Partain

(From page 8)

maintaining vegetative resources.

Through the efforts of the Pennsylvania Forestry Association, leaders in forestry and conservation were determined to do something about the sorry situation. A program of forestry education long proposed by the leaders of the association was finalized and the school established at Mont Alto. . . .

I shall make brief reference to the third stage which can most aptly be described as the era of forest preservation and management in Pennsylvania.

Fire was the first problem, and its solution was not easy. Protection, reforestation, silviculture, and management followed. Multiple-use became the payoff procedure. Growing more trees to satisfy an increasing need in marketing has been a part of it all. Leadership in these problems and endeavors by the forestry associations has seemed to be the balance wheel, the referee or the moderator. They have carried the torch for conservation and protection as well as for practicality. . . .

I think it can now be said that we are at a new plateau of forest resource preservation, management, and use. We believe that we are in the greatest era of undertaking in the history of the Pennsylvania Forestry Association, as well as The American Forestry Association. They are still truly citizen's organizations. They still serve as referees, but the game is played with an organized team. Teamwork is our approach. . . . The rules of the game have

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been changed from time to time. For example, a few years ago the constitution and bylaws of our state association were improved to provide that members of the Board of Directors should be made up of one-third from industries using forest resources, one-third from educational and professional conservation personnel, and one-third from the general citizenship. It is truly a great team; one which deserves the support of more and more people. . . .

Our associations accept the challenges and continue to offer our services as the mutual meeting ground for all interest concerned. We believe that such interests should be wider spread and we solicit participation of more and more people. . . .

Civilian Responsibilities

(From page 27)

ganizations each with their own earnest, but restricted, interests. The crisis is of such dimensions that it cannot be dealt with by any one segment of society. Authoritative action is required by governing bodies, yet the radical decisions can not be undertaken without a proper climate of opinion. Such a climate cannot be established as long as influential sectors of the economy—business, for example—feel that the solutions to these resource problems pose threats to their own interests.

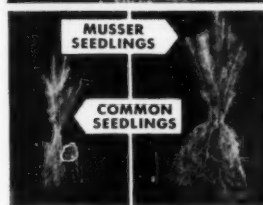
It seems to me that any new course of social action involves three things: first, leadership. Without men who know the problem thoroughly and who are willing to take the risks of proposing necessary solutions we shall get nowhere.

Secondly, there must be education. Education, first and foremost, of the influential levels of society, then of the bulk of the population.

Thirdly, we will get as a result of the first two, responsibility—popular assent combined with political action.

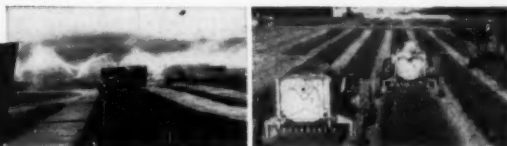
Government, alone, can never undertake any of these. We are all well aware that the political system of the United States does not operate in a vacuum. It is subject to all the pushes and pulls—all the tensions—to be found throughout our society. Political action nearly always springs, not from government, but from one small group within the community. When, through repetition, effective pleading, or physical crisis, the arguments of this group make an impression upon influential sectors of the public our political representatives become receptive. When, after further repetition and argument, public assent or passive acceptance is forthcoming, government acts.

Now I think that we have the leadership in resource management to accomplish the first of these. Many distin-



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guished men and women, in a great variety of professions, have studied the current pressures upon our resource base and have been outspoken in informing the rest of us about the challenge we confront. . . .

Our educational problem is somewhat different than it has been in the past, however. The problems of urban sprawl, the allocation of water, and flood control do not excite the kind of support that could be mustered behind the establishment of national parks or better game laws. The technicians' solutions to problems such as these are complex. The nature of our problems and the necessity for solutions are sometimes hard to dramatize and bring home to the layman who frequently has an exceedingly short memory. It always surprises me, for instance, how the tragedy of a flood can subside into ancient history in the space of a few weeks. . . .

Our present problem is to infuse the leaders of the community, the men who run our factories and labor unions, the men who plan our cities and highways, the men who publish and edit our newspapers and operate television and radio stations with a deep concern for the problems posed by heavy resource demands and the competition for space.

As you can see, the resource challenge of today is of a different kind from that we faced a half-century ago. Today it is not simply a matter of saving a few wilderness areas or waterfowl. Today our resource problem penetrates every corner of society and is doing so with alacrity, as the panel of this morning so ably pointed out.

Concerned conservationists must recognize that today's resource problems involve the day-to-day economics of our entire society. Their solutions depend upon the interest and co-operation of dozens of interests that are frequently in conflict.

Let's get together with instead of baiting the so-called "big interests" for instance.

It is industry, after all, that has the greatest need for a sound resource base.

It is industry that is going begging for new supplies of plentiful, clean water.

Forest management as practiced on some of our industrial lands is more intensive today than that practiced on public forests, and for a very good reason: there is no virgin forest in the next state west when logging operations are completed.

The indiscriminate pollution of our waterways by industry must, in the interests of industry itself, decline because of the astronomical demands for water which expanding industry requires.

Progressive business today recognizes the importance of employee and consumer morale as a sound foundation for its operations. Parks and other recreational facilities figure importantly in the selection of new plant sites.

I will not deny that many industries today are still guilty of resource abuse. There are groups who would like to lay their hands on precious public lands. But these, by and large, do not represent the leadership in the business community. I say let us encourage the interest which has been growing among our industrial and financial leaders.

I stress the importance of the business interests only because too many conservationists have made a solution to our resource problems more difficult by their ideological opposition to the interests of the financial community. Businessmen have, in turn, been guilty of the same sin toward resource management. . . .

At present the civilian can best make his influence felt as a member of an organization. The organization can be most effective if it recognizes resource demands far beyond its own confined interests, if it is willing to work closely with public resource agencies, and if it is willing to ally itself with other groups interested in good resource management.

Recognize that a multitude of interests require our basic materials for survival. Accommodate yourself to the adjustments which must be made between these interests. Above all, educate your fellows toward social responsibility. At the less responsive levels of our population, this may simply entail the inculcation of good outdoor manners or good fire prevention. At more perceptive levels it means raising support for a wise national resource policy.

We must realize, as Monroe Bush has pointed out, that only a small minority of people will ever actively concern themselves with resource management.

"But," he adds, "people can be educated to understand an issue about which they might not care deeply. They can be informed, if they cannot be enlisted."

This is the hope we have for creating that climate of opinion in which a wiser American approach to our national resources can be adopted. . . .

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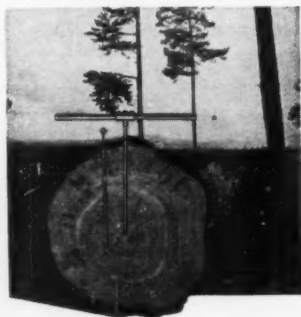
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Landowners' Responsibilities

(From page 26)

measurable volume, yet in that interval, in the 12 southern states alone, 465,000 acres were planted by the forest industries. Since 1951, an additional 1,489,000 acres have been artificially planted or seeded in the South by those same industries. . . .

In the field of wood utilization, great strides have also occurred. Laminated wood structural members are increasingly in use in building. Prebarking of logs to permit the production from slabs of clean bark-free chips for use in pulp making was begun in the West and has now spread across the country, with benefits to the sawmills, the pulp mills and to the nation's supply of standing timber. Particle board and various hardboards are using planer mill and sawmill refuse. . . .

Another encouraging development is the increasing use permitted of company lands for hunting, fishing and recreation. American Forest Products Industries conducted a survey in 1957 of 455 forest industry landowners, embracing nearly 43 million acres. Ninety-two and four-tenths per cent of the area surveyed is open to hunters, 96.3 per cent is open to fishermen. One hundred and sixty-five companies had or were planning recreational parks. . . .

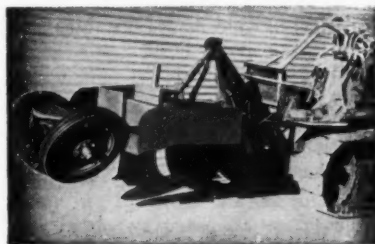
The next category of ownerships is described in the Timber Resource Review as "other private, non-farm." Some 130.2 million acres or 26 per cent of the nation's commercial forest land fall in this category. There are 1,104,700 owners. . . .

I think, in general, the larger ownerships have been converted to putting their lands in timber production if they had not already done so. This is certainly true in Louisiana. The problem is rather with the medium and small absentee owner, who may never have seen his land, who either thinks it is growing timber or doesn't care, but who holds it for present or potential income or as a good hedge against inflation. People who can be contacted and who visit their lands periodically can frequently be sold on tree planting and on good forestry practices. . . .

We now come to the ownership group that holds the largest block of forest land, 165.2 million acres, or 34.2% of the nation's total commercial forest land. They number 4 million owners. Some 77.8 million acres are in ownerships of less than 100 acres and another 59.2 million are in ownerships of 100 to 500 acres. If, as the Timber Review indicates, the small farm and non-farm ownerships together hold the key to the

nation's timber supplies, owning as they do about half our commercial forests, and if, as the Review also indicates, these small holdings are in the poorest condition of all, then if our future timber requirements are as great as predicted there may be cause for concern. If a sense of responsibility is the thing that is still lacking, how can we awaken it in the minds of 4,000,000 small landowners, and what part should others play in helping to accomplish it? That, really, is pretty much the meat of this panel discussion, for therein seems to lie our greatest problem.

Acutely aware of this fact, the Forest Service with local help organized small woodlot conferences across the nation last autumn in the timber-growing states. Small woodlot owners were invited to attend, and did attend in varying numbers, although generally outnumbered at the conferences by foresters at the national, state, and industrial level, and by representatives of the various government services and agencies. In reading the summaries of these conferences, certain statements recur in most of them to explain the lack of good forestry on small woodlots:



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1. Lack of education in the value and practice of woodlot management.
2. Lack of markets and knowledge of how to market.
3. Lack of an early return on expenditure of labor and money.
4. Plain indifference. . . .

Perhaps, as Mr. Greeley, our presiding officer, has suggested, a study of personal motivation is needed along with research in greater wood utilization.

Viewed from any angle, the problem is not an easy one. Financial motivation has been tried in various forms—payments for planting, payments for stand improvement work and, more recently, the soil bank. This will add something to the forest acreage; if the plantations are successful, the owner may become sufficiently enthused to take better care of his existing timberlands. Subsidies, however, do not seem to be the ideal answer. Personal responsibility is not developed under benevolence.

Two other approaches to the problem have been made, to a limited extent, but very successfully.

One is the Tree Farm Family idea, started, I believe, by Nickey Brothers in Tennessee and followed by Tom de Wiese in Mississippi. Under this plan, the landowner adopts a timber management plan for his woodland which is prepared free of cost to him by the com-

pany's foresters. The landowner handles the property at his own expense but he has the status of a preferred supplier to the mill and the free assistance and guidance of the company's foresters, as required. The mill in turn gets first chance to buy the timber, but the owner can sell to anyone who offers a better price.

The members of the Tree Farm Family and the operator of the mill meet periodically and there is a social aspect to this venture and a spirit of camaraderie which constitutes personal satisfaction to the participants.

A second approach is the leasing of private woodlands by pulp mills or other industries. This hardly offers a practical solution for the owner of less than 100 acres, but a great many leases are extant on larger farm and non-farm ownerships. Leasing has restored to productivity some very sizable tracts where the owner had neither the time, money nor skill to accomplish the job.

Still another approach which has its vociferous advocates is the one of compulsion. Make it illegal to cut destructively. Fine everybody, but especially the mill or the logger that buys wood or cuts wood under such conditions. Various devices have been suggested to accomplish this, one being to subsidize states enacting cutting laws in conformi-

ty with federal standards, and deny them such subsidy when they do not. Federal control via the pocketbook, at the taxpayer's expense. There are two difficulties apparent in this approach, apart from its repugnance to most Americans. One is, who is going to write the specifications for cutting under the infinite variety of stand conditions encountered in the country? The other is that this does nothing to improve the woodlot where cull tree removal and planting are the crying needs. . . .

I believe that intensification of our past and present efforts is the surest and best approach. Perhaps we have not yet found the key to communication with the myriad landowners whose response must be secured to achieve the desired result but new approaches are constantly being tried. As research finds new uses for presently cull species, as demand grows apace and markets are increasingly available, the attractiveness of tree farming will certainly become more and more apparent even to the small landowner. Tax concessions to lands under reforestation will certainly help. Certified Tree Farms should be recognized as preferred credit risks in areas where adequate fire protection has been established. And last but not least, let us not overlook the fact that *pride* in a needed job well done can still be a motivating force in a free nation.

Forestry's New "Little Inch" Pipe Line

(From page 32)

hangs about 3500 buckets (he still uses the old terms for his new system) but could hang 6000 on his 300 acres. Each tree yields about one half-gallon of the final product, he said, while the maple syrup yield for every 100 gallons of sap water is 2.5 gallons.

The Zimmerman tree farm is considered the most progressive sugar bush in the East, but the owner is confronted with a problem which baffles scientists. A peculiar form of fungus has attacked the sugar maples, and no effective remedy has been discovered. Actually, the diseased areas look as if they might be the result of inside pressure exploding

outward through the bark. In a few instances, the diseased areas appear to have healed themselves, leaving only scar tissue. Usually, however, the trees only live a few years after being attacked by this fungus.

Mr. Zimmerman made a plea for more money to be expended on forest insect and disease research, as these pests destroy more trees annually than forest fires. Mr. Lloyd Partain then told the group that just two weeks ago the Research Advisory Committee on Forestry to the Department of Agriculture, of which he is a member, spent an hour discussing the fungus problem and how

to initiate action to effect a cure.

Despite his success in maple syrup production, it is only one phase of his tree farm management program. Mr. Zimmerman operates his tree farm for 100 per cent utilization which includes sawlogs, pulpwood, and specialty products.

As the group departed Mrs. Zimmerman gave us an unusual recipe:

Maple Whiskey Sour
3 parts whiskey
3 parts consisting of equal amounts of orange, lemon, and grapefruit juice
1 part maple syrup
chill with ice and serve

Reading About Resources

(From page 7)

real purpose — or perhaps better said, without orientation. All sentiment aside, nature is significant only as it relates to us human beings, or as we relate to it. Whatever significance it has of itself apart from mankind is fundamentally immaterial to

us. We see the world through human eyes, or else we do not see it at all. Some people have used nature as an escape from human life, and these would not agree with what I have just said.

But Teale is no escaper; he does

not belong to this sentimental breed. For this reason I cannot "place" him, I cannot discern his fundamental viewpoint. Taken singly his stories are refreshing and pleasant. He has an excellent piece, for instance, in the Westwood an-

thology. But gathered into an entire volume they become more difficult to understand; they are then not so refreshing. One chocolate candy can taste mighty fine, but a box full is enough to give a man a whale of a stomach ache.

Yet Teale has a large and loyal following to whom *Adventures in Nature* will be a welcome book—they will be ready to consume it all at one sitting without ache or pain. For these are popular stories, and so I can only conclude that there must be something here I do not understand.

Both the Westwood and the Teale books are well illustrated by Walter W. Ferguson, many of whose drawings bring to mind the unsurpassed work of Kate Lord, who for a number of years illustrated the quarterly *The Land*. Ferguson and Mrs. Lord are of that sort of combination naturalist-artist who can give real drama and excitement to texts of this kind.

And speaking of drama, I have just finished as dramatically written a book on natural science as comes along in whatever a coon's age may be. It is a lively job by Paul Gris-

wold Howes called *This World of Living Things* (Duell, Sloan & Pearce, N. Y. 1959. 232 pp). So lively, in fact, that it is impossible to say which is the most dramatic, the author or his subject-matter! For Howes, long-time curator of the Bruce Museum of Greenwich, Conn., long-time explorer, long-time charming gentleman, has enthusiasms and energy that spill over and inundate his manuscript. This is primarily a book about little things with a big significance, and frequently the reader may feel he should take off his glasses and put on a microscope before turning the page. Furthermore, despite Howes' protestations in the introduction, the book has no particular organization or pattern. And to be brutally honest I should add that the book was too much fun writing, and is too much fun reading, to get top-drawer acceptance in professional circles. Science has a tradition of dullness, at least among the Ph.D. crowd.

But if you enjoy a good fast-moving, immensely entertaining account of scientific wonders, you could not buy a more satisfying book than this one.

Social Pressures

(From page 21)

door nonurban recreation that there is not enough recreation land set aside to accommodate present demands. At least there is not enough usable recreation land within easy reach of urban dwellers, especially in some sections east of the Mississippi where over 67 per cent of our people were living in 1950, more than 62 million of them in urban areas. Based on Census Bureau projections to 1980, we estimate there may be as many as 233 million people living in this eastern third of the country by the year 2000, the great majority of them in urban areas.

Unless there is a complete change in people's habits and interests (and I doubt that there will be any decrease in the love of the out-of-doors, the urge to travel, and the need for physical activity), the pressure for recreation use of lands and waters will be many times what it is today.

The phenomenal increase in use of local, state, and national parks, forests, wildlife refuges, reservoirs, and other public lands during the last 10 years shows no sign of slackening off.

The particular types of outdoor activities that are the rage at a particular time, like water skiing, skin diving, motor boating, and camping are today, will change from decade to decade. But outdoor rec-

reation will always demand forested lands and adequate water surfaces. These are the fundamentals—we must reserve space, we must preserve examples of our native landscape throughout the country and keep intact an ample supply of our generous heritage of superb scenery—the forests are a prime part of that heritage.

And now, of course, I am talking of the entire country, the 50 states and our territories, for our preferences in outdoor recreation do not vary much from one state to another. It's the opportunity for outdoor recreation, the supply of areas and facilities, that varies so much at present. Where large lakes have been created by damming rivers in originally lakeless regions, we find that the desire for water-related recreation is just as strong as in well-watered regions—and sometimes stronger. In fact, right now it seems as though everyone wants to be on, in, or near water. . . .

As you all know, an ample supply of clean water requires more than control of domestic and industrial wastes. It requires proper use of the land and the forests covering that land, which brings us back to people and to the increasing demands on all resources resulting from the world-wide exploding population. . . .

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I, for one, believe there are ample resources to take care of most all our needs for a long time to come—if they are properly used. Setting aside lands on the local, state and federal levels for recreation use is like putting resources in a safety deposit box, to be drawn on for extractive use only in case of dire necessity. But it is better than that, for we draw a high rate of interest on our deposits—the health and happiness of people, opportunities for our urban dwellers to enjoy a richer, more complete life.

Such reserves have multiple benefits. Opportunity for outdoor recreation is only one of the benefits. What better way is there to conserve the soil and water, reduce flood damage, and protect fish and game habitat than by protecting areas? Recreation areas in high country protect the watershed. . . .

I would like to repeat what I said at the annual meeting of the American Planning and Civic Association in Philadelphia just about a year ago: "Parks are not a substitute for these other forms of reservations, each of which has its own major purposes. Neither are these other forms of public reservations a substitute for parks. The establishment of a park to preserve the intrinsic values peculiar to a certain area is quite different from the establishment of reservations to produce lumber, forage, power, or other commercial products, even though these other reservations may provide incidental recreation. Each type of reservation has its primary purpose or purposes different from the purposes of other types or categories of land management. I dwell on this because I am convinced that we can get better returns from our natural resources if we do not try to make one type of land management do what some other can do more effectively, or if we do not try to make one type of land management serve the purposes of all the other types combined."

There is the perennial question that I am certain is on your minds as we talk about the pressures on forest resources—how much land will be required to provide adequate space for outdoor recreation? I think the question is—with how much land will we be satisfied; this depends on how important we, as a nation, feel it is to preserve remnants of our once abundant, undeveloped, open country. . . .

In the past, some planners have recommended 10 acres of park and playground for every 1000 people in a city; more recently they have suggested that this should be increased to possibly 15 acres, with an additional 10 acres per 1000 for outlying metropolitan parks and beaches, or a total of 25 acres serving every 1000 people in a metropolitan area. Up to now, the planners have not had a generally accepted standard for desir-

able amounts of space for recreation beyond the metropolitan area. But what about this metropolitan standard? The majority of metropolitan areas in the United States have not approached this standard and not enough is being actually accomplished to come anywhere near this standard as urban development spreads out over the country. Are these standards too high? As I said, it depends on the values we place upon the importance of open space and the preservation of forests and streams and all that makes up our country. . . .

The use that is being made of parks and other public lands for recreation clearly indicates that we are not meeting future demands for space and facilities. I believe that there is an immediate need for at least twice as much acreage for recreation purposes as currently exists, and for recreation acreage more strategically located with respect to population. Towns, cities and states need to acquire recreation land. In the eastern half of the country, several times the present acreage is needed, and local communities and states should acquire most of it. It is my personal belief that a major portion of the forested Appalachian range should eventually be managed primarily for recreation, which would also assure that these mountains continue to serve the equally important purpose of watershed protection.

A PRAYER FOR PEACE

"We make our invocation this morning by way of a prayerful expression of praise and thanksgiving to Our Almighty Father. We praise His omnipotence in providing for us the sun, the moon, the stars, and our earth. We are grateful to Divine Providence for our rocks, and rills, and templed hills and we ask that peace may hold sway and freedom ring always from our mountainsides. With this prayer we open our convention this morning — "Oh God, from Whom come all holy desires, right counsels, and just works, give to thy servants peace; so that our hearts being disposed to obey Thy commandments and the fear of our enemies being removed, our days by Thy gracious protection may be peaceful, through Christ our Lord. Amen."

*The Rev. Father
Edward McConnell
Saint Thomas Parish
Bedford, Pennsylvania*

Our study of the Atlantic and Gulf coasts indicated that at least 15 per cent of the general shoreline should be acquired for public recreation purposes—not by the federal government alone, however, and our more recent studies of the Great Lakes shoreline and the Pacific Coast show that pressures for shoreline recreation areas are building up at a fast rate in those sections also.

Secretary of the Interior Fred A. Seaton has shown his concern for the department's role in shoreline acquisition by asking Congress for authority to designate three such areas as deserving of federal status. Local communities and states also need to look to their own responsibilities in this field. . . .

An important part of our nationwide planning program is the careful study of the national park system as a whole, and of each area in it. This is leading, for the first time, to a systematic and comprehensive plan for a well-rounded and adequate system of nationally significant areas. The continuing increase and changing pattern of public use raises grave questions about the adequacy of the present system in terms of both numbers and kinds of units it contains. And, as the public need increases, available nationally significant areas suitable for inclusion in the national park system continue to disappear. . . .

The demand for recreation use of public and private forests, wildlife refuges, reservoirs, grazing districts, and other forms of reservations will continue to increase even with greatly expanded systems of local, state and national parks. These other reservations provide some of the much-needed open space, but their recreation potentialities are limited, as they should be, by the primary purposes for which they were established. The establishment of a park to preserve the intrinsic values peculiar to a certain area is quite different from establishment of a reservation to produce lumber, forage, power, or other commercial products.

To meet the growing social pressures, more lands must be set aside exclusively for recreation, interpreted in the broadest sense, a sense indicated by the pronunciation "recreation." And as Sigurd Olson stated at the annual meeting of the Soil Conservation Society a year ago, "Much more attention must be given to the matter of multiple use and careful decisions must be made as to what is the best use of land and water. Land must be looked at not only for the material products it can produce, but from the all-important aspect of recreation and from the standpoint of aesthetics. No longer can we ignore the multiplicity of values inherent in all land, especially those that cannot be weighed on the scales of economics but nevertheless contribute heavily to human happiness."



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